

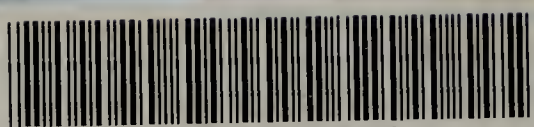


REPORT

OF THE

**DIRECTOR GENERAL
OF PUBLIC HEALTH**

FOR 1968



22501407554

1969

PARLIAMENT OF NEW SOUTH WALES



REPORT

OF THE

Director General of Public Health

for 1968

Ordered to be printed, 6 November, 1969

BY AUTHORITY
V. C. N. BLIGHT, GOVERNMENT PRINTER, NEW SOUTH WALES—1970

WELLCOME INSTITUTE	
1968	
DATE	1968
TIME	+
NO.	ANALYSIS
	WAVE
	. KAE
	N53

1968

DEPARTMENT OF PUBLIC HEALTH, NEW SOUTH WALES

Office of the Director General of Public Health
52 Bridge Street, Sydney

MEMBERS OF THE STATE BOARD OF HEALTH

(As at 31st December, 1968)

Dr C. J. Cummins (President); Dr E. S. A. Meyers; Prof. Sir Edward Ford; Dr D. M. Storey; Dr N. Larkins;
Mrs J. D. Martin; Mr J. A. Shaw; Aldermen F. J. Purdue and D. G. McDougall.

ADMINISTRATIVE STAFF

(As at 31st December, 1968)

Director General of Public Health; Chief Medical Officer of the Government; Commissioner for Venereal Diseases,
CYRIL JOSEPH CUMMINS, M.B., B.S., D.P.H.

Director of State Health Services and Senior Medical Officer of Health,
EDWIN SOLOMON ALEXANDER MEYERS, M.B., B.S., D.P.H., F.R.S.H.

Metropolitan Medical Officer of Health

IAN KENNEDY HAY, M.B., Ch.B., D.P.H., D.T.M. & H.

Assistant Medical Officers of Health

MANUEL LAZARUS FREEDMAN, M.B., Ch.B., D.P.H., D.T.M. and H.

WILLIAM ALEXANDER LOPEZ, M.B., B.S., D.P.H., D.I.H.

PETER J. CHRISTOPHER, M.B., B.S., D.P.H.

Medical Officer

JOHN RICHARD BESNARD BEAUMONT, M.B., B.S., D.A., M.F.A.R.A.C.S., F.F.A.R.A.C.S

Administrative Officer, Public Health Services and Secretary, Board of Health

PETER KRIX, Esq.

DIVISIONS AND BRANCHES

The following Divisions and Branches are controlled by the Director General of Public Health: Maternal and Child Health; Tuberculosis; Epidemiology; Dental Services; Occupational Health; Forensic Medicine; Government Analyst; Medical Officers of Health for the Metropolitan, Newcastle, South Coast, Western, North Western, North Coast, Riverina and Broken Hill Districts; The Institute of Clinical Pathology and Medical Research; Health Education; Pure Food; Health Inspection; Private Hospitals; Poisons Branch.

CONTENTS

Letter of Presentation from the Director General of Public Health to The Honourable A. H. Jago, M.L.A., Minister for Health	Page 5
---	-----------

VITAL STATISTICS

Vital Statistics for New South Wales for the year 1968	16
--	----

COMMUNICABLE DISEASES

Notifiable infectious diseases recorded in New South Wales during the year 1968 under the Public Health Act 1902–1961, cases and deaths classified by Health Districts, compared with 1967 totals	19
Epidemiology	20
Venereal Diseases	22
Leprosy	22
Tuberculosis	27
Poliomyelitis	47

PUBLIC HEALTH SERVICES

Health Inspection Branch	49
Food Inspection Branch	52
Private Hospitals and Rest Homes	57
Health Education	58
Medical Examination Centre	63
Medical Statistician	67
Poisons Branch	67

PREVENTIVE MEDICINE

Bureau of Maternal and Child Health	69
Section of Maternal and Infant Care	70
Section of Child Health	81
Section of Special Services	110
Dental Services	111

HEALTH DISTRICTS

Metropolitan Health District	115
Newcastle Health District	117
South Coast Health District	121
Western Health District	129
North Coast Health District	134
North Western Health District	140
Riverina Health District	145
Broken Hill Health District	148

SCIENTIFIC SERVICES

Government Analyst’s Branch	150
Division of Forensic Medicine	164
Division of Occupational Health	166
The Institute of Clinical Pathology and Medical Research	183

Report of the Director General of Public Health

TO

The Honourable The Minister for Health

(The Hon. A. H. JAGO, M.L.A.)

Sir:

I have the honour to present my Annual Report for the year ended 31st December, 1968.

During the year the state of health in New South Wales has remained stable and compares favourably with the situation as existing in 1967 and previous years. The organization of health services is in a transitional phase wherein the emphasis is changing from the control of infectious diseases and supervision of the environment to the challenges which are arising from an era of economic prosperity, technology and industrialization.

This change must of necessity be slow and cautious, and must move in phase with similar movements in other States and the Commonwealth. More and more our administration is conditioned by the need for uniform approach and action throughout Australia to problems and challenges arising from the community as it adapts to social and economic changes. In terms of this philosophy the Commonwealth is adopting the role of a catalyst and central co-ordinating agency. Most of the decisions which affect the States and influence their health services and legislation arise from recommendations of the National Health and Medical Research Council. This has been recognized to some extent by the Health Ministers, who at their annual conferences, are tending to use the National Health and Medical Research Council as an expert advisory committee and operational research unit.

The influence of the Commonwealth has been very obvious also in the field of social welfare particularly in the support of programmes towards the aged and other dependent members of the community, such as the intellectually retarded. Commonwealth subsidies have enabled voluntary and government agencies to extend their programmes, both residential and domiciliary, to meet the needs of this segment of the community.

Aboriginal Health

A particular approach was introduced by the Commonwealth towards support of programmes to conserve and improve aboriginal health and welfare.

In October, 1968, I attended a conference called by the Commonwealth Department of Health to discuss the distribution of the Commonwealth grant for aboriginal health. This grant was made through the Office of Aboriginal Affairs of the Prime Minister's Department and was portion of the overall grant of \$13,000,000 for aboriginal health, welfare, housing, education and research. The health grant to New South Wales was \$50,000 for 1968 with the implied promise that at least a similar sum would be forthcoming in 1969.

At the conference it was emphasized that the initial grant was to be expended on services or buildings identifiable as necessary for aboriginal health services. The States were given latitude to propose their own plans to complement existing programmes. It was indicated that when overall Commonwealth policy was developed subsequent distributions might be allocated in part, or full, in accordance with guidelines of such policy.

The proposals advanced by New South Wales included grants to voluntary and religious organizations active in aboriginal health and welfare, and the establishment of a group of community nurses to supervise aboriginal health in the western district of the State. These proposals were accepted by the Commonwealth Office of Aboriginal Affairs. Planning is proceeding to recruit these nurses who will be located at Wilcannia, Wentworth, Bourke, Moree and Walgett. In addition some of the funds were used to provide medical sessions in certain of the western shires for ante-natal care of aboriginal mothers and immunization of aboriginal children.

A second stage of our proposals is concerned with the training of aboriginal nursing aides, some to serve in country hospitals and others to return to aboriginal stations and settlements there to assist the community nurses. I have no doubt that this stage will be supported additionally by the Commonwealth as it would conform with known Commonwealth policy to stimulate education and training of aboriginal youth.

One interesting feature of the Commonwealth Grant is the provision of funds specifically for research. I am hopeful that continuing longitudinal research into the health of aborigines will now be developed as a co-operative Commonwealth-State venture. It is not valid to project research findings from nomadic and primitive aborigines to New South Wales. Many ill-informed statements

relating to ill health, morbidity and mortality of aborigines in New South Wales have received publicity in the mass media. These statements have not been tested and are largely based on individual judgments and not basic data. Research would provide this data on which consequent health services could be developed.

The Administration of Health Services in New South Wales

Early in 1968 a report was released which may have a significant influence on the future structure of the administration of health services in New South Wales, although not necessarily in the manner intended or proposed in the Report. Mr G. C. Eglington, then Administrative Research Officer in the Consultant and Research Division of the Public Service Board, was assigned a project in 1967 to make a "close examination of the provisions of the Public Hospitals Act with a view to reaching a conclusion as to whether it meets the present day needs of the hospital service". The extent of the project was expanded as it proceeded to include community health services as well as the Public Hospitals Act. Under this combined title the Interim Report of Conclusions and Recommendations was released in February, 1968.

In the foreword to the Report the Director of the Consultant and Research Division of the Public Service Board stated that the objective of release was to permit "a wider review of and contribution to the study". At this time Mr Eglington was in England and no longer an officer of the Public Service Board. The preliminary documents of the Report do not indicate whether it was released with Mr Eglington's consent, nor do they contain any imprimatur of his conclusions and recommendations. It is unusual for a Report with such implications to be exposed to critical analysis under these circumstances.

An expert Committee has been appointed under the Chairmanship of Dr K. Starr to review the Eglington Report and receive comment on it, and alternatives to the principles and recommendations advanced therein. Invitations from the Committee were extended widely to individuals and organizations which might proffer expert advice and which are involved, directly or indirectly, in health administration or health services. These invitations were not confined to New South Wales.

All comments, of which I have knowledge, were critical of the Report and its implications. Briefly the Eglington Report proposed that, on a statutory basis, central Government should assume positive responsibility for the administration, organization and distribution of health services through a Central Ministry of Health patterned on the English system. It proposed further that there should be a regional distribution of public health and therapeutic services centred on the hospital as the primary medical community instrumentality. The similarity to the English system was apparent in the illustrative legislation proposed by Eglington, which in parts is almost a verbatim reproduction of the National Health Act of Great Britain (suitably amended to his purpose and local circumstances).

My main personal objection to this Report is on the basis on which it has been developed, viz. that the existing system is invalid and should be replaced by an administrative structure developed elsewhere to meet different social and political philosophies. If its recommendations had been based on a studied audit of the present system in New South Wales and its recommendations made as a result of deficits demonstrated therein, the Report, irrespective of the novelty of its recommendations, would have been welcomed by health administrators as a valid and valuable working document towards reform.

I am grateful to the Committee under Dr Starr for the opportunity to analyse this Report, and advance my opinions on the role and validity of the present administrative organization; on the future challenges to public health and its administration, and on the modifications of organization and policy the better to meet these challenges. As President of the Board of Health I have also presented its viewpoint in a separate submission.

I look forward with great interest to the recommendations of the Starr Committee and its analysis of the Eglington Report. I know that senior medical administrators in other States and the Commonwealth likewise are interested, as any changes in New South Wales will have influence on the mode of health administration elsewhere in Australia.

The Investigating Committee (Section 27A, Medical Practitioners Act, 1958-1964)

The Investigating Committee is the preliminary tribunal which investigates complaints of professional misconduct made against doctors under the Medical Practitioners Act. Its composition remained unchanged during 1968 and it met on three occasions. There were nine complaints referred to it, four of which were subsequently referred to the Disciplinary Tribunal for hearing and determination. The remaining five complaints were dismissed.

Again, I would draw your attention to the difficulty a private complainant has in pursuing his complaint to the Disciplinary Tribunal. The same difficulty is not evident before the Investigating Committee as its investigations and hearings are carried out confidentially, and adequate protection can be given to the individual complainant in presenting the complaint. When such cases are referred to the Disciplinary Tribunal the hearings are open and the procedures formal. An individual complainant is at a disadvantage in presenting his complaint without legal assistance. No provision is made under the Act to provide legal assistance, and even if this cost is borne by the complainant there is no redress, even if successful, to recover these costs. I consider provision should be made for the Crown to provide legal assistance in these circumstances.

Health Services in the Western Area of New South Wales

I have continued to take a personal interest in the health needs of the Western Group of Shires. There are health problems associated with these shires which are not duplicated to the same extent elsewhere in the State. These arise from geographic isolation, and vast pastoral areas with low population density. Many of the towns in this region cannot economically support private medical practice, and in several locations where it is economical there are difficulties in attracting and retaining doctors. Many factors are associated with the unattractiveness of this type of rural medical practice of which economics is probably the least. Some of the more important deterrents are social and professional isolation; insecurity to cope with medical emergencies; remoteness from specialist and consultant services; difficulty in securing locums for holiday relief; economic stability and availability of private practice in urban areas which compete with rural areas for general practitioners; climatic and educational difficulties, and the impracticability of recovering capital assets invested in practice.

Some advances have been made, or are proposed, to improve the medical infra-structure of this region. The incentives, financial and practical, which are now mutually provided by the Department and the shires to support one-doctor towns will help to stabilize the present situation. This support will not entirely achieve even this objective unless it is liberally interpreted and applied equally to towns supporting two or three doctors, where there is evidence of movement of doctors elsewhere without prospect of replacement.

The success of the Western Shires Dental Scheme, now in its second year, is a significant pointer to principles which may have to be applied likewise to medical services in this region. Unless and until there is some form of salaried medical service to supplement private practice, and supplant it where it is uneconomical then I cannot see any permanent solution to the medical needs and necessities of the Western Group of Shires.

A salaried, or part salaried, service could have inbuilt mobility to provide service in remoter areas as well as in base towns. It would be self-supporting in terms of relief. Its quality can be insured and supervised, and it could be supported by itinerant specialist and consultative services.

The Australian Dental Association (N.S.W. Branch) has accepted the principle of a salaried service with adequate safeguards in the mechanism of its administrative control, as valid for the Western Shires. Some such similar medical system could be devised and not be offensive to the policy of the Australian Medical Association.

As a step towards a more comprehensive public health service, the principle has been approved to provide one community health nurse for each shire in the group. This has been achieved by converting the static positions of Baby Health Centre Nurse to Community Nurse, and providing additional establishments in those shires which share a Baby Health Centre Nurse with adjacent shires. Some Shire Baby Health Centres are serviced by nurses from the Far West Children's Health Scheme. It is not intended to interfere with the function of this organization, which has provided and is still providing valuable service. I hope when this scheme is in operation the Far West Children's Health Scheme will adopt the principle of using its nurses as community nurses and co-ordinate with our services.

When the distribution of community nurses is completed throughout the Western Group of Shires, it is my intention to propose that this group be incorporated under the Public Health Act as a Health District, with its own Medical Officer of Health and staff. The location for the Medical Officer of Health is yet to be determined. No matter where located he and his staff will function as itinerants moving from shire to shire on pre-determined circuits. This will provide the opportunity also for regional supervision of the hospitals services of the region.

When an adequate public health service is organized for this region the anomaly of inadequacy of personal therapeutic services will still remain, and become even more apparent. Perhaps it is not idealistic to envisage a bold and permanent solution to this challenge in the foreseeable future.

Notification of Cancer

Cancer is one of the three major causes of death in Australia. The death rate from this disease has risen from 982 per 1,000,000 of the population in 1924 to 1,456 per 1,000,000 in 1968. Substantially this increase is due to a greater proportion of persons living to the age of 60 years and above, thus increasing the number of persons at risk. There have been absolute increases in the incidence of some forms of cancer, of which the most publicised is lung cancer.

The prognosis of cancer has improved dramatically in the past two decades, due to better knowledge of its natural history, identification of causative or aggravating factors in some varieties and improved technology in therapy. It is now possible to structure public health campaigns against certain types of cancer towards their prevention or early detection. One of the difficulties in determining priorities for such campaigns is the absence of any reliable figures on the incidence of cancer by type in this country. Death rates are unreliable indices and cannot be used to assess accurately the extent of morbidity from this disease or its social and economic consequences on the community.

For some years I have been advocating the establishment of a Central Cancer Registry to obtain basic data on which can be based public health and therapeutic programmes against cancer. I am pleased to report that this concept has been received with interest by the Post-Graduate

Committees of the Universities of Sydney and New South Wales, and the New South Wales Cancer Council. As a result an expert committee of these organization, with myself as chairman, has investigated the validity and practicability of such a Registry.

The committee has reported that a Central State Cancer Registry is feasible provided that the information collected is restricted to basic information concerning the patient; the type of cancer; outlines of treatment and the hospital at which the patient is treated. It saw as the Registry's functions:

- (a) The determination of the incidence of cancer in New South Wales.
- (b) A central source for the stimulation of specific studies and the distribution of information to specific tumour registries.

The necessary data for the Central Cancer Registry could be obtained by a legal requirement of notification by hospitals. Suitably modified standard morbidity report returns introduced by the Hospitals Commission could be used as notification returns by the General Hospitals of the State.

The proposal now has the active support of the New South Wales State Cancer Council and the Post-Graduate Committees of the Universities of Sydney and New South Wales. I will be submitting to you in 1969 specific details for the establishment and maintenance of a Central Cancer Registry, and the consequential amendment of the Public Health Act to provide for notification of cancer. Should this proposal be approved it will be the first such Registry in Australia. I have no doubt that it will be successful and will stimulate other States to follow, thus leading to Australian statistics, and perhaps co-ordinated anti-cancer programmes.

Food Technology

Discussions are proceeding between the Commonwealth and member Nations of the United Nations Organisation on the preparation of an International Agreement on food standards. These negotiations are at the stage where specific standards are being discussed, but as yet none has been formally adopted. The mechanism through which these discussions are taking place is the Codex Alimentarius Commission.

The States have been kept informed on these deliberations and are given the opportunity to comment on draft standards, both in general terms and how they may affect State laws. So far no conflict with legislation in New South Wales has arisen. Most of the foods under consideration are not included in the provisions of the Pure Food Act as they are natural foodstuffs for which standards are not necessary for the local product. The draft documents so far received relate more to good processing, packaging and merchandising rather than to the quality of the food.

This concept of merchandising and processing imposes a further type of quality scrutiny for which the Department is unprepared. Such knowledge is rather the province of the technologist than the food inspector, who is more concerned with quality of the product and sources of adulteration.

Apart from the impact of the Codex Alimentarius discussions food technology is becoming significant in the public health supervision of foodstuffs. There is a large variety of imported foods, often of the exotic or sophisticated type, which has stimulated competitive manufacture in New South Wales. To bridge this gap in the technical facilities of the Department I have proposed the appointment of a Food Technologist within the Pure Food Branch.

Fluoridation

One of the outstanding events during the year was the fluoridation of the Metropolitan Water Supply. There is now a total of twenty-nine water supplies fluoridated with a coverage of approximately 61 per cent of the population of New South Wales. Decisions on fluoridation have yet to be taken by the Hunter District Water Supply and the Broken Hill Water Board. There are indications that a favourable attitude towards fluoridation will be adopted by the Hunter District Water Supply, and I am hopeful that the Broken Hill Water Board will ultimately follow this example.

VITAL STATISTICS

The estimated population of New South Wales as at the end of 1968 was 4,430,200 comprising 2,222,900 males and 2,207,300 females. The total increase in population was 82,900 including excess of births over deaths 39,893 and net migration 43,100. The crude birth rate was increased over 1967, rising from 18.30 to 18.62. This is the first occasion there has been an increase for six years.

The number of stillbirths registered was 806 representing 0.98 per cent of all births (live and still). This was less than 1967 (1.1 per cent). There were 41,803 deaths for the year, including 1,525 infant deaths under 1 year of age. This corresponds to a crude death rate of 9.54 per 1,000 of the population (1967, 9.19) and an infant mortality rate of 18.67 (1967, 18.42) per 1,000 live births. New South Wales still has the highest crude death rate of any State of Australia, and is consistently above the Australian average, which is approximately 8.7. This may relate to a higher proportion of aged persons in the population of New South Wales. It is a cause of some concern and merits further investigation and a comparative study of age-specific death rates.

The number of maternal deaths increased from 19 to 28 and the maternal death rate (0·34 per 1,000 live births) is the highest for the past four years, and a reversal of the trend towards a continuing diminution since 1940. This increase occurred in the Metropolitan area of Sydney where facilities for obstetrics are readily available in comparison with rural areas.

COMMUNICABLE DISEASES

A table showing the totals of the diseases notified under the Public Health Act, 1968, will be found on page 19 of this Report. Again, it is disappointing that we had 14 cases of diphtheria. However, it is a decrease on last year when there were 23 cases with two deaths. On receipt of each notification departmental medical officers carried out investigations and instituted preventive measures.

There was a marked decrease in the incidence of infectious hepatitis. 2,540 cases and 11 deaths were notified in the State a decrease of 37 per cent of last year's figure of 4,032. The incidence was the lowest reported since 1957.

Thirteen cases of typhoid fever were notified. In four of these the infection was apparently acquired during travel overseas, and in one case the infection was believed to have been acquired from an overseas visitor. In two instances the source of infection was traced to a member of the patient's family, the families in both cases being new Australian.

There were 56 cases of malaria of which all but one was imported, the infection most commonly being acquired in Vietnam or New Guinea. The one case where infection originated in New South Wales is also the only notified fatal case. There is presumptive evidence that the infection by the parasite was conveyed by blood transfusion. Details are given in the report of the Director of Epidemiology.

Venereal Disease

There was a rise in the number of notifications of gonorrhoea during the year. The total 4,943 was the third highest annual total since the Act came into force in December, 1920, and the highest since 1923. This rise was also reflected by an increase of 41 per cent compared with last year in the number of cases treated in the departmental clinic.

The total number of syphilis cases notified in 1968 fell from 610 in 1967 to 513, but the proportion in an infectious stage rose slightly.

1,264 defaulters were notified from the Metropolitan Health District and of these 572 (45·3 per cent) remained in default. Thirty-seven were notified from the rural Health Districts.

Summonses were issued against 715 persons compared with 637 in 1967. Four males were arrested. One was fined \$26 and the others completed treatment after being placed on verbal recognizance.

The U.S.A. Military Authorities forwarded reports concerning 88 women allegedly with gonorrhoea and 5 with syphilis. Of these, insufficient information for action to be taken was given for 71 women. The others were informed of the alleged infection and advised to seek attention.

Hansen's Disease

At the end of 1968 there were 22 cases of Hansen's Disease—5 males and 4 females isolated in the Institute of Tropical Medicine; 10 males and 3 females under domiciliary surveillance. There were three new cases.

Tuberculosis

There was a further slight decrease in the notification of new cases of tuberculosis for 1968 (850) as compared with 1967 (853); re-activated cases showed a decrease for 1968 (72) as compared with 1967 (83). The overall total for new active and re-activated cases was less in 1968 (922) as compared with 1967 (936). There was a further decrease in the death rate, 66 deaths as compared with 72 in 1967. As in previous years the majority of deaths was in the over fifty years group.

In accordance with the pattern of previous years the incidence of new active cases of tuberculosis is highest in the group 50 years of age and above, with predominance in the above 70 group and most marked in the males.

The greatest source of discovery of all cases continued to be by mass miniature radiography.

THE HEALTH DISTRICTS

Metropolitan Health Districts

The proposal for the Metropolitan area to be divided into four Health Districts—Southern Metropolitan (Headquarters Bexley); Northern Metropolitan (Headquarters Chatswood); General Metropolitan (Headquarters Leichhardt); Western (Headquarters Parramatta) has only been developed in respect of the Western Health District. The other districts are still under consideration.

The establishment of the Western Health District was further delayed because of financial difficulties. However, accommodation for the District Office was obtained in the Government Insurance Office building, Church Street, Parramatta, and it is expected the Health District will be established and functioning in May, 1969.

The population of the Metropolitan Health District at 30th June, 1968, was 2,631,510 an increase of 54,330 over the figure for 1967. Live births numbered 47,627 and deaths 25,318 representing rates of 18.10 and 9.62 per 1,000 mean population.

There was a substantial increase in the number of maternal deaths from 10 in 1967 to 19 in 1968. As a consequence the maternal mortality rate for the Metropolis of Sydney has increased from 0.22 (1967) to 0.40 (1968) per 1,000 live births. The factors responsible for this increase will be investigated by the Special Committee Investigating Maternal Deaths. As I have previously commented this is the first major increase in maternal mortality for some decades and is disturbing.

Deaths of children under 1 year of age totalled 857,—a slight increase on 1967 (823). The infant mortality rate was less than 1967, 17.99 against 18.02 per 1,000 live births. The decrease in the rate despite the increase in the total number of infant deaths is related to the higher birth rate for 1968 and is not significant.

Communicable diseases notified under the Public Health Act totalled 1,967 with 32 deaths. Of these, infectious hepatitis accounted for 1,508 with 8 deaths, and infantile diarrhoea with 367 cases with 17 deaths. There were 15 cases of viral encephalitis with 4 deaths; 9 cases of hydatid disease with 2 deaths; and 9 cases of diphtheria.

Although there was a 16.8 per cent decrease in cases of infectious hepatitis compared with 1967 the epidemiological explanation of this may well be associated with population density and the frequency of contact in the urban situation compared with the rural areas.

The figures in respect of hydatid disease are too small to impute significance to this four-fold increase over 1967; nevertheless the notification of 9 cases with 2 deaths is a reminder of the continuing need for awareness of this problem by doctors, health officers and the general public.

Again, during 1968, the Deputy Metropolitan Medical Officer of Health continued as Chairman of the Ryde Child Injury Prevention Committee concerned with a project designed to reduce the number of accidental injuries which occur to children in the Ryde area.

The Rural Health Districts

With the exception of the sparsely populated Wentworth and Central Darling Shires, the whole of the State is now divided into Health Districts.

Details of vital statistics and activities of these Health Districts are given by the Medical Officers of Health in their reports. In general, observations are made on the continued expansion of activities in environmental sanitation, pure food administration, tuberculosis control, maternal and child health.

Health Inspection

The Health Inspection Branch at Central Administration is responsible to the Metropolitan Medical Officer of Health for the work carried out in the Metropolitan area.

Regular inspections were made of nightsoil and garbage depots in the Metropolitan area. The main defects related to offensive odours, rat infestation, deposition of garbage into water and mosquito breeding in garbage cells. The practice of establishing "hard fill" tips for disposal of house refuse has given rise to many problems. The attitude of some Councils has been that such tips do not require close supervision. Consequently, many tips have been established without adequate planning and without reference to this Department. In some instances this has resulted in serious public health problems, which could have been prevented by consultation and advice from the Department.

During the year 387 surveys and 246 inspections of allotments of land notified under section 55 of the Public Health Act, 1902, as amended, were carried out. Applications for Search Certificates received numbered 94,425, an increase of 11,242 from the previous year.

A draft code designed to assist councils to regulate the control and conduct of caravan parks and camping areas was prepared. Copies of the draft code have been forwarded to governmental and other interested bodies for comment before its publication.

After considerable investigation an approval on a trial basis was granted to Blacktown Municipal Council to use sewage treatment works effluent for spray irrigation of playing fields at Quakers Hill.

A two-day conference for Senior Health Inspectors was held at Head Office, and included a combined conference of Senior Health, Food and Nursing Inspectors of the Department. Topics discussed included public relations, management principles, contributions of Health, Food and Nurse Inspectors to total care and techniques for investigation of lighting in school classrooms.

Food Inspection

The Chief Food Inspector reports that a near record number of 1,422 complaints were made by the general public to the Pure Food Branch during 1968. This is an indication of the reputation of the branch and of public confidence in it.

During the year 9,377 inspections were made of premises used for the preparation, sale and storage of food and drugs, resulting in 934 warnings and 30 prosecutions for unclean premises. A total of 189 tons of food was seized and destroyed. Additional to these seizures 10,753 head of poultry sent to the poultry markets were destroyed as unfit for human consumption. One hundred and forty-eight traders were convicted and fined for general breaches of the Pure Food Act. The total number of prosecutions instituted by the branch was 538 for which fines and costs totalling \$15,534.50 were imposed.

The Government Analyst

There were 9,238 milk samples examined during the year. Three hundred and forty-six or 3.76 per cent of these failed to comply with the standards; 93 samples were deficient in milk fat, 214 showed the presence of either added water or low milk solids and 39 samples were found to be improperly pasteurized.

Seven hundred and forty-eight samples were examined in the Food Bacteriology Section, a far greater number than previous years, the main reason being the survey which was conducted on country milks for the presence of antibiotics.

The continuing oyster survey has shown an increasing level of pollution, particularly in the Georges River culminating in the detection of salmonella in oysters from Woollooware Bay. Salmonellae were also recovered from water draining from a tip into this Bay.

There was a large increase in the number of cases submitted by the Police to the Drug Section; 90 cases were examined for this Authority, 72 coming from the Drug Squad. This may be either a direct result from the enlargement of the Squad or an indication of greater drug usage developing in the community.

On the 8th November, Mr E. S. Ogg retired from the position of Government Analyst after 39 years service with the Department. He was succeeded by Mr L. Clark.

Mr Ogg's retirement was a loss to the Department. He was one of the most distinguished occupants of the post of Government Analyst, which he held since 1954 then succeeding the late H. B. Taylor. Born in 1905 he graduated from Sydney University in 1927 as Bachelor of Science with First Class Honours. His reputation as a Rugby League footballer was as outstanding as his academic record, and one of his greatest regrets was that university was eventually relegated from the first grade competition.

He joined the Government Analyst's Branch on the 29th August, 1929, and experienced its transition from a standard type of chemical laboratory complex to one with sophisticated instrumentation with an outstanding reputation. Much of this was due to his leadership in anticipating technological change.

He was an expert on food standards and quality and a member of 14 expert committees. He never sought higher academic honours. His horizon was too occupied with the administrative demands made upon him. His merit as a scientific administrator and his technical knowledge were acknowledged by the Australian Institute of Food Science and Technology which granted him its Award of Merit for 1969 . . . "in recognition of his long and outstanding service to food science and technology". In paying my tribute and respect to Sam Ogg I extend also my congratulations to his successor.

(Tragically Sam Ogg did not long enjoy his retirement but died unexpectedly and suddenly in July, 1969. His memory and example as a man and scientist will long be revered by his friends and colleagues).

PRIVATE HOSPITALS

The number of private hospitals licensed under the Private Hospitals Act was constant for 1968 as compared with 1967 (413 and 412 respectively), but the number of licensed rest homes decreased from 113 to 88. Despite this decrease there was an increase in the number of beds in rest homes from 11,633 to 13,090, due to the establishment of a number of larger premises. Private hospitals and rest homes now contribute 17,681 beds to the hospital pool of the State catering largely for chronic diseases and geriatric patients.

The system of private hospitals and rest homes relieves the State of a tremendous financial burden if these patients had to be accommodated in the general hospital system.

All private hospitals and rest homes are inspected twice annually and additional inspections are made for licensing of new or altered premises.

DIVISION OF FORENSIC MEDICINE

There were 2,468 autopsies carried out and 117 examinations of criminal assault cases.

There was considerable interest during the year in the availability of organs from Coroners' cases for human transplant. Arising from this and from other factors there have been combined conferences of medical and legal authorities to explore the possibility of conducting autopsies on certain coronial cases at teaching hospitals.

The cramped accommodation of the Division in all sections continues to cause concern. The solution lies with the completion of the new accommodation in Parramatta Road, Camperdown. Work has commenced and completion of the building is expected in May 1970. The need of these premises is more apparent now that the Division has a full staff of forensic pathologists, who are impeded in the quality of their technical performance by inadequate facilities. In an attempt to overcome this difficulty separate offices have been provided for the pathologists in a building about one mile distant from the City Morgue. This has improved the working space at the City Morgue, but has separated the pathologists from the City Coroner and the scientific officers of the Division for a considerable part of the working day.

HEALTH EDUCATION

During 1968 the Division continued the development foreshadowed in the health education plan of 1964.

The first group of five field health education officers was established to provide the services of a specialist officer in several of the Health Districts and in certain major programmes such as cancer and adolescent health.

Following a report by the Australian Medical Association on Venereal Disease in Australia an ad hoc committee was appointed which reported on health education needs for adolescents, high risk groups, teacher and health personnel, and a number of the committee's recommendations have been implemented.

A Tuberculosis Sub-Committee was also appointed to study existing publicity and health education programmes of all agencies concerned in tuberculosis control and make recommendations to improve programmes.

A pilot course was developed for child minding personnel of pre-school centres, and this proved most successful. Further regular courses were prepared. A working party was also set up to make recommendations for an intensive health education programme for adolescents who have left school.

Details of the activities of the Division of Health Education during 1968 are set out in the Director's report.

BUREAU OF MATERNAL AND CHILD HEALTH

By establishing the Bureau in 1965 the Department provided prospective mothers, as well as children, with a continuing preventive health service for mothers during their pregnancy, labour and puerperium, and for children from early infancy to school leaving age. There are three sections viz. Maternal and Infant Care, Child Health, and Special Services.

The role of the Section of Special Services has been changed from a line of authority function to that of a staff group which acts solely as consultants and advisors to the Bureau, Central Administration, as a whole; to Senior Medical Officers in Child Health Centres; and, to Medical Officers of Health in Health Districts.

During the year informal integration of the three sections of the Bureau has continued.

The new Child Health Centre at Cabramatta commenced operation during 1968.

Section of Maternal and Infant Care

The services given to the community by this section began early in the century and were aimed primarily at the reduction of maternal and infant mortality. The work of the section is based on services given through Baby Health Centres. Other aspects include medical clinics for pre-natal care, assessment without treatment from problems arising in the management and rearing of children under 5 years (Well Baby Clinics) and medical examination of children (day nurseries and kindergartens).

The study of maternal deaths continued during the year. The value of these studies lies in exposing defects in facilities and care, which if corrected would not only prevent deaths, but minimize morbidity associated with pregnancy and child birth. The full effect of this morbidity is often unrecognized.

During the year the format and definition for a peri-natal death certificate were completed by negotiations with the Registrar General and his staff. Amendments to the Births, Deaths and Marriages Act are being prepared, and when passed by Parliament uniform peri-natal mortality statistics will be possible for comparison between the States and for Australia as a nation.

A comprehensive study of Caesarian Sections for one year was completed and an article prepared for publication early in 1969.

The number of births in New South Wales increased during 1968 from 78,843 to 81,696; one in thirteen of these births were to unmarried mothers.

At the end of 1968 there were 440 Baby Health Centres operating in New South Wales—159 in the metropolitan area, and 281 in the rest of the State. Ten additional new centres were established; 3 transferred to new premises, 3 closed.

Details of other activities with full statistics of maternal and infant mortality are given in the report of this section.

Section of Child Health

In 1968 a total of 208,315 pupils attending Primary Schools and High Schools in the Metropolitan area were fully examined or reviewed. Medical Officer appointments at the Metropolitan Child Health Centres totalled 8,107, and excluding the figures for the new centre operating at Cabramatta there was a comparative increase of approximately 400 appointments. The number of new cases for the year was 4,937.

The number of pre-school kindergartens receiving regular medical supervision increased from 86 to 112, and the number of pre-school children medically examined or reviewed increased from 3,692 to 4,936.

Details of other activities and statistics are given in the report for this section.

Section of Special Services

This section now acts in a consultative role to the Section of Child Health and the Section of Maternal and Infant Care. However, the diagnostic clinic for atypical children still operates to provide service for children not catered for by Child Health Centres. One hundred and ninety-two cases were seen and 77 cases reviewed.

A visit was made to Broken Hill by a diagnostic team of physician, psychologist, social worker and speech therapist. During 8 working days the team examined 68 children. Diagnosis included sensory handicaps, learning disabilities, disorders of speech and language, behaviour disturbances, intellectual handicap, and combination of these.

Details of other activities and statistics are given in the report on this section.

MEDICAL EXAMINATION CENTRE

Since its establishment the functions of this centre continue to expand. Medical examinations are here performed to assess fitness for permanent or temporary employment in 48 Public Service Departments and 32 allied Services; to determine fitness for admission to the State Superannuation Fund for medical assessment of trainees for the Department of Education and the Public Service Board; for assessment of medical fitness to continue in employment and to continue traineeships (the centre is responsible for all decisions concerning premature retirement on medical grounds); for special purposes including lantern tests of colour vision, fitness for employment as fumigators, divers, etc.; for medical assessments on behalf of the Transport Retirement Board; for assessments for the Local Government Superannuation Scheme; to determine fitness to resume duty following premature retirement on medical grounds; for determination of travel concessions to ex-Servicemen with war caused disabilities etc. Members of the general public are vaccinated on request. When required examinations are arranged in country areas, interstate and overseas and the results assessed at the centre.

Other services and statistics are shown in the report on the centre.

DENTAL SERVICES

Budgetary circumstances restricted the more important activities of the Division mainly to those of a routine nature.

Improvements were achieved in some of the Institutions, new clinics being completed for the Prisons and Child Welfare Departments.

Although some Loan Funds were granted for a new School Dental Clinic in the Green Valley area it was disappointing that the major finance anticipated for the Dental Nurses Training School did not materialize. This was particularly unfortunate as Tasmania, South Australia and the Australian Capital Territory are well advanced with similar projects when the original move in this direction was in New South Wales.

The aerial service, which is only possible with the assistance of the Royal Flying Doctor Service (N.S.W. Section) continued its operations during the year without interruption.

The Western Shires Dental Scheme has functioned extremely well since its inception in 1968, and new residences were completed at Bourke and Balranald. Most of the subsidiary clinics connected with the Scheme have been completed. Practical assistance will be provided to the scheme next year by the Aerial Dental Service, particularly at Brewarrina and Cobar.

The dental service provided in government institutions continued satisfactorily. Details of these services and other services are shown in the report of the Division.

OCCUPATIONAL HEALTH

The Division of Occupational Health is a medical and scientific Division providing advisory services to industry. In addition, it administers legislation relating to atmospheric pollution, and the safe use of radioactive substances and irradiating apparatus. The Division comprises three Branches: Radiation; Air Pollution Control, and Industrial Hygiene.

It was disappointing that owing to construction delays the Division will not move to Lidcombe during 1968.

The risk of occupational noise induced hearing impairment is widespread. In some heavy industries reduction of noise to a suitable level presents difficulties and is currently not practical. However, follow-up of noise investigations has shown that in many cases, when properly introduced by management, there has been good acceptance of ear protection. An encouraging and increasing number of inquiries has been received from Trade Unions.

Six articles by members of the staff of the Division were published overseas; the Division published a booklet on *Ergonomics*. In addition, 62 articles were accepted for publication in Australian journals.

Dr E. O. Longley, Acting Director since 1966, was awarded a seven months World Health Organisation Fellowship to study Occupational Health abroad, and plans to leave in March, 1969. He was also appointed as Chairman of the Workers' Compensation (Dust Diseases) Medical Authority.

Details of the activities and statistics of the Division are set out in the report hereunder.

POISONS BRANCH

This branch was established during 1967 to administer the Poisons Act, 1966, as amended, relating to the regulation, control and prohibition of the sale and use of poisons, restricted substances, drugs of addiction and certain dangerous drugs.

The branch is now operating quite satisfactorily, and with the appointment of the required staff, inspections have been made of premises where drugs or poisons are manufactured or distributed. Particular attention has been given to manufacturers and distributors of drugs, and to pharmacies, medical practitioners, dentists, veterinary surgeons, and public and private hospitals.

1968 was the first full calendar year during which sections 27 to 30 of the Poisons Act have been in operation. These sections require a medical practitioner to obtain the Authority of the Director General of Public Health to prescribe a drug of addiction for a person who is, in the prescriber's opinion, an addict, or to prescribe a drug of addiction continuously for more than 2 months for purposes of treatment.

The medical profession has co-operated fully in these provisions, and 609 applications have been made for Authority to prescribe. Of the patients involved in these applications 62 were assessed as addicted. These persons are often classified as therapeutic addicts and do not constitute a social problem.

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

The demands upon the institute continued to increase during 1968 in all its departments other than bacteriology. The proportionate increases varied from 2.5 per cent in haematology to 49.5 per cent in virology. The quantity and range of pathology services offered by the institute is testing its physical and staff resources. Discussions are proceeding towards increasing its size to cope with present demands, and projected demands for the next decade.

The reputation of the institute is such that it is now the major training institution for pathologists in New South Wales. The strain upon its facilities for service and training is such that its research activities have not kept pace with its potential. Despite this twenty-one scientific papers were published or accepted for publication during 1968, and a further eleven articles are in course of preparation. When the scientific divisions are aggregated at Lidcombe (which will probably be in 1969) I intend to propose that an Institute of Health Science be formed to include the institute and the divisions of the Government Analyst, Occupational Health and Forensic Medicine. Such an institute will co-ordinate the science activities of these divisions and enable co-ordinated programmes of training and research to be undertaken using the total facilities of these divisions.

Among the more important activities of the institute during 1968 were:

1. The introduction of the rubella haemagglutination Inhibition Test of which 998 were carried out. By this test it is possible to determine whether pregnant women have been recently exposed to rubella (german measles) during the early susceptible stage of their pregnancies.
2. The wide recognition of the venereal serology section as the reference laboratory for Australia. Its facilities are used by other States, New Zealand and Fiji as a result of which there was an increase of 33 per cent in the number of tests performed. The laboratory completed a Treponemal serological survey of Aborigines of the Northern Territory in association with the Commonwealth Department of Health, and is at present co-operating in a similar survey of the island of Kar Kar in New Guinea as part of the United Nations International Biological Programme for 1969.
3. The development of a thin layer chromatography technique for the classification of mycobacteria by Mr O'Conner, Senior Microbiologist in the Bacteriology Department. This permits of a better identification of anonymous mycobacteria which now constitute about 20 per cent of all organisms handled in the laboratory.
4. The increase in response of exfoliative cytology for the detection of uterine cancer, the annual number of specimens for which has increased to 172,040 in 1968. Since the inception of this scheme in 1962, 1,769 women have been found in whom evidence of pre-clinical cancer was present. This has enabled these women to be investigated and treated at a stage when results are excellent. Apart from uterine cancer similar techniques are used for the detection of other types of malignant disease, notably lung, stomach and bladder. 1,292 such specimens were received during the year.

Full details of the activities of the institute are included in its report.

The reports of the individual divisions and sections of my administration follow.

Yours faithfully,

C. J. CUMMINS,
Director General of Public Health.

VITAL STATISTICS

TABLE I—VITAL STATISTICS BY HEALTH DISTRICTS, 1968

	Health District	Estimated population 30th June, 1968	Live- births (a)	Deaths				Still- births (c)	
				All ages (a)	Under 1 year (b)	Under 1 month (b)	Under 1 week (b)		
NUMBERS	Metropolitan	2,631,510	47,627	25,318	857	643	584	437	
	Newcastle	522,980	9,523	5,691	165	121	116	105	
	South Coast	334,200	6,499	2,640	121	91	87	66	
	North Coast	155,040	2,737	1,471	50	42	41	24	
	Western	274,990	5,822	2,851	145	91	83	72	
	North Western	161,550	3,543	1,430	77	61	57	35	
	Riverina	257,030	5,268	2,121	94	63	57	56	
	Broken Hill	30,320	548	236	8	7	6	7	
	Remainder of State	5,570	129	45	8	4	4	4	
	Migratory	9,210	..	..	..	..	..	..
	New South Wales .. {	Males	2,199,600	41,897	22,966	869	651	605	421
		Females	2,182,800	39,799	18,837	656	472	430	385
		Persons	4,382,400	81,696	41,803	1,525	1,123	1,035	806
RATES	Metropolitan .. .. .	.. .. .	18·10	9·62	17·99	13·50	12·26	9·09
	Newcastle .. .. .	.. .. .	18·21	10·88	17·33	12·71	12·18	10·91
	South Coast .. .. .	.. .. .	19·45	7·90	18·62	14·00	13·39	10·05
	North Coast .. .. .	.. .. .	17·65	9·49	18·27	15·35	14·98	8·69
	Western .. .. .	.. .. .	21·17	10·37	24·91	15·63	14·26	12·22
	North Western .. .. .	.. .. .	21·93	8·85	21·73	17·22	16·09	9·78
	Riverina .. .. .	.. .. .	20·50	8·25	17·84	11·96	10·82	10·52
	Broken Hill .. .. .	.. .. .	18·07	7·78	14·60	12·77	10·95	12·61
	Remainder of State .. .. .	.. .. .	23·16	8·08	62·02	31·01	31·01	30·08
	New South Wales .. .. .	.. .. .	18·64	9·54	18·67	13·75	12·67	9·77

(a) Rates per 1,000 of mid-year population.
(b) Rates per 1,000 live-births.
(c) Rates per 1,000 total births (live and still).

TABLE II—ESTIMATED POPULATION AND ELEMENTS OF INCREASE, 1968

		Population at end of year	Population mean for year	Excess of births over deaths	Net migration	Total increase
Males		2,222,900	2,201,800	18,931	23,300	42,200
Females		2,207,300	2,185,600	20,962	19,800	40,700
Persons		4,430,200	4,387,400	39,893	43,100	82,900

TABLE III—CRUDE BIRTH RATE: 1963–1968

Year		Live births per 1,000 mean population
1963		20·77
1964		19·61
1965		18·71
1966		18·35
1967		18·30
1968		18·62

This year saw the introduction of the Eighth Revision of the International Classification of Diseases (I.C.D.). This has made certain changes in the content of the 17 main classes of disease. Class I, Infective and Parasitic Diseases, now includes gastro-enteritis of infective origin. Class III, Endocrine, Nutritional and Metabolic Diseases, no longer contains allergic diseases. Cerebrovascular disease has been transferred from Class VI to VII, Central Nervous System to Circulatory System. Class XV, Certain Causes of Perinatal Morbidity and Mortality, is so different from its former counterpart that a complete recasting of table VI, Causes of Death of Infants under one Year of Age, was necessary. Much more notice is now taken of relevant maternal conditions, and conditions distinguished by age alone are not now listed separately. There are many other differences of a less major nature, the Eighth Revision being more detailed than its predecessor. In table IV, the main differences in coverage at the break in Classifications are indicated. It should also be added that a query programme directed at deaths certified as pneumonia has been largely responsible for the fall in pneumonia deaths and the rise in bronchitis deaths.

TABLE IV—DEATHS FROM SELECTED CAUSES, 1963–1968

I.C.D. revision and year				Number of deaths			Rate per million of mean population		
				Males	Females	Persons	Males	Females	Persons
<i>Neoplasms (7th Rev. 140–239, 8th Rev. 140–239)</i>									
7th Rev.	..	..	1963	3,101	2,609	5,710	1,524	1,294	1,410
			1964	3,226	2,646	5,872	1,558	1,290	1,425
			1965	3,157	2,588	5,745	1,498	1,239	1,369
			1966	3,332	2,675	6,007	1,569	1,268	1,419
			1967	3,363	2,756	6,119	1,555	1,284	1,420
8th Rev.	..	..	1968	3,565	2,824	6,389	1,619	1,292	1,456
<i>Neoplasms of Trachea, Bronchus and Lung (7th Rev. 162, 163 includes pleura, 8th Rev. 162 excluding pleura)</i>									
7th Rev.	..	..	1963	705	104	809	346	52	200
			1964	830	122	952	401	59	231
			1965	805	139	944	382	67	225
			1966	883	120	1,003	416	57	237
			1967	901	152	1,053	417	71	244
8th Rev.	..	..	1968	959	136	1,095	436	62	250
<i>Ischaemic Heart Disease (7th Rev. 420–422, 8th Rev. 410–414)</i>									
7th Rev.	..	..	1963	7,321	4,927	12,248	3,598	2,444	3,023
			1964	7,710	5,272	12,982	3,723	2,571	3,150
			1965	7,707	5,276	12,983	3,656	2,527	3,094
			1966	7,989	5,433	13,422	3,761	2,575	3,170
			1967	7,780	5,302	13,082	3,598	2,470	3,036
8th Rev.	..	..	1968	7,786	5,196	12,982	3,536	2,377	2,959
<i>Cerebrovascular Disease (7th Rev. 330–334, 8th Rev. 430–438)</i>									
7th Rev.	..	..	1963	2,155	2,908	5,063	1,059	1,442	1,250
			1964	2,171	2,992	5,163	1,048	1,459	1,253
			1965	2,273	3,124	5,397	1,078	1,496	1,286
			1966	2,351	3,208	5,559	1,107	1,520	1,313
			1967	2,273	3,158	5,431	1,051	1,471	1,260
8th Rev.	..	..	1968	2,539	3,543	6,082	1,153	1,621	1,386
<i>Pneumonia (7th Rev. 490–493, 8th Rev. 480–486 includes pneumonia of newborn)</i>									
7th Rev.	..	..	1963	729	499	1,228	358	248	303
			1964	828	653	1,481	400	318	359
			1965	806	570	1,376	382	273	328
			1966	898	691	1,589	423	328	375
			1967	733	559	1,292	339	260	300
8th Rev.	..	..	1968	459	407	866	208	186	197
<i>Bronchitis (7th Rev. 500–502 bronchitis acute, unqualified, chronic, 8th Rev. 490–493 bronchitis unqualified and chronic, emphysema, asthma)</i>									
7th Rev.	..	..	1963	653	130	783	321	64	193
			1964	762	138	900	368	67	218
			1965	704	157	861	334	75	205
			1966	858	173	1,031	404	82	244
			1967	807	177	984	373	82	228
8th Rev.	..	..	1968	1,156	318	1,474	525	145	336
<i>Motor Vehicle Accidents (7th Rev. E810–E835, 8th Rev. E810–E823)</i>									
7th Rev.	..	..	1963	693	221	914	341	110	226
			1964	762	277	1,039	368	135	252
			1965	851	315	1,166	404	151	278
			1966	817	328	1,145	385	155	270
			1967	861	291	1,152	398	136	267
8th Rev.	..	..	1968	941	324	1,265	427	148	288
<i>Accidents other than Motor Vehicle Accidents (7th Rev. E800–E802, E840–E962, 8th Rev. E800–E807, E825–E949)</i>									
7th Rev.	..	..	1963	664	361	1,025	326	179	253
			1964	754	460	1,214	364	224	295
			1965	745	398	1,143	353	191	272
			1966	710	417	1,127	334	198	266
			1967	796	437	1,233	368	204	286
8th Rev.	..	..	1968	702	403	1,105	319	184	252

TABLE V—CAUSES OF DEATH, NEW SOUTH WALES, 1968

Class	I.C.D Nos.	Cause of Death	Number of Deaths			Rate per Million of Mean Population		
			Males	Females	Persons	Males	Females	Persons
I	000-136	Infective and Parasitic Diseases	171	122	293	78	56	67
II	140-239	Neoplasms	3,565	2,824	6,389	1,619	1,292	1,456
III	240-279	Endocrine, Nutritional and Metabolic Diseases ..	375	446	821	170	204	187
IV	280-289	Diseases of the Blood and Blood-Forming Organs ..	54	72	126	25	33	29
V	290-315	Mental, Disorders	140	98	238	64	45	54
VI	320-389	Diseases of the Nervous System and Sense Organs..	211	201	412	96	92	94
VII	390-458	Diseases of the Circulatory System	12,582	11,495	24,077	5,714	5,259	5,488
VIII	460-519	Diseases of the Respiratory System	1,854	902	2,756	842	413	628
IX	520-577	Diseases of the Digestive System	565	398	963	257	182	219
X	580-629	Diseases of the Genito-Urinary System	447	448	895	203	205	204
XI	630-678	Complications of Pregnancy, Childbirth and Puerperium.	..	28	28	..	13	6
XII	680-709	Diseases of the Skin and Subcutaneous Tissue ..	7	9	16	3	4	4
XIII	710-738	Diseases of the Musculoskeletal System and Connective Tissue.	54	108	162	25	49	37
XIV	740-759	Congenital Anomalies	211	214	425	96	98	97
XV	760-779	Certain Causes of Perinatal Morbidity and Mortality	510	357	867	232	163	198
XVI	780-796	Symptoms and Ill-defined Conditions	71	119	190	32	54	43
XVII	E800-E999	Accidents, Poisonings and Violence (External Cause)	2,149	996	3,145	976	456	717
	000-E999	All Causes	22,966	18,837	41,803	10,431	8,619	9,528

TABLE VI—CAUSES OF DEATH OF INFANTS UNDER ONE YEAR OF AGE, NEW SOUTH WALES, 1968

I.C.D. Nos 8th revision	Cause of death	Number of deaths			Rate per 1,000 of live births		
		Males	Females	Persons	Males	Females	Persons
000-136	Infective and Parasitic Diseases	32	28	60	·76	·70	·73
320	Meningitis, except Meningococcal and Tuberculous	6	7	13	·14	·18	·16
466	Acute Bronchitis and Bronchiolitis	15	8	23	·36	·20	·28
480-486	Pneumonia	62	50	112	1·48	1·26	1·37
740-759	Congenital Anomalies	147	143	290	3·51	3·59	3·55
760-761	Maternal Causes unrelated to Pregnancy	18	29	47	·43	·73	·58
762	Toxaemia of Pregnancy	26	12	38	·62	·30	·47
764-768	Difficult Labour	41	19	60	·98	·48	·73
763, 769	Other Complications of Pregnancy and Childbirth ..	95	73	168	2·27	1·83	2·06
770, 771	Conditions of Placanta and Umbilical Cord	67	47	114	1·60	1·18	1·40
772	Birth Injury without mention of Cause	22	11	33	·53	·28	·40
774, 775	Haemolytic Disease of Newborn	11	13	24	·26	·33	·29
776	Anoxic and Hypoxic Conditions not elsewhere classified.	111	69	180	2·65	1·73	2·20
777	Immaturity, Unqualified	104	71	175	2·48	1·78	2·14
773, 778	Residue of Certain Causes of Perinatal Morbidity and Mortality.	15	12	27	·36	·30	·33
Residue of 140-796	All other Causes except Accidents, Poisonings and Violence	50	37	87	1·19	·93	1·06
E800-E999	Accidents, Poisonings and Violence	47	27	74	1·12	·68	·91
	All Causes	869	656	1,525	20·74	16·48	18·67

DIVISION OF EPIDEMIOLOGY

Director: H. C. JOHNSTON, M.B., B.S., D.P.H.
Location: General epidemiology: 52 Bridge Street, Sydney
Venereal diseases: 93 Macquarie Street, Sydney

The general epidemiology of infectious diseases including those notifiable under the Public Health Act 1902, as amended, has been the concern of the Deputy Director, assisted by another medical officer and clerical staff at Head Office. Consultant services have been given to hospitals, private practitioners, district medical officers of health and other departments. Lectures were given to university undergraduates and postgraduates, local medical societies, nursing colleges and other bodies interested in the epidemiology of infectious diseases.

Under the direction of the Commissioner, Venereal Diseases Act 1918, as amended, the Division is responsible for the administration of that Act, and also conducts the departmental venereal diseases clinic for males. The clinic is staffed by two full-time medical officers, clinic attendants and clerical staff. For the last 5 months of the year a female social worker was employed in the case-holding and contact-tracing of patients with venereal disease. Medical students from the University of New South Wales attended the clinic for tuition in the clinical and practical management of patients and a short course of didactic lectures was given at the University of New South Wales.

GENERAL EPIDEMIOLOGY

During 1968 the following diseases were reported under the Public Health Act, 1902, as amended.

	Metropolitan		Rest of State	
	Cases	Deaths	Cases	Deaths
Anthrax .. .. .	..	..	3	..
Brucellosis	1	..	11	..
Diphtheria	9	..	5	..
Encephalitis, viral	18	7	14	8
Hydatid Disease	10	2	19	2
Infantile Diarrhoea	370	19	144	20
Infectious Hepatitis	1,509	8	1,031	3
Leptospirosis	1	..	11	..
Malaria	42	1	14	..
Ornithosis	2	..	1	..
Paratyphoid	1	..	..	..
Q. Fever	1	..	1	..
Tetanus	2	1	7	3
Typhoid	10	..	3	..
Typhus .. .. .	..	..	1	..

Immunization status of children

A survey of the immunization status of N.S.W. kindergarten and primary school children was carried out during the year. The immunization status of 38,376 children was assessed from parents' replies to a questionnaire distributed in a sample of schools in each of the seven health districts of the State.

The overall situation in the State revealed by this survey was that only 28.9 per cent of the children were fully immunized (primary course and two boosters) with triple antigen. 85.9 per cent had at least the primary course of triple antigen. The Department remains perturbed at the poor immunization status of many children in the community.

Diphtheria

Fourteen cases of diphtheria were notified during the year. Of the nine cases that occurred in the metropolitan area, seven came from the Western Suburbs and two from Newtown. Four cases were notified from the North Coast Health District, and one case was notified from the Newcastle Health District. No fatal cases were reported.

On receipt of each notification departmental medical officers carried out investigations and instituted preventive measures. As most of the cases notified were school children, this involved throat swabbing in the classrooms where diphtheria had been notified in order to detect and isolate carriers of toxigenic strains of *Corynebacterium diphtheriae*, while at the same time offering active immunization or boosters to those pupils not adequately immunized. The siblings of patients or carriers were also investigated.

One case was notified in a boy living in a Welfare Institution accommodating fifty-seven boys aged six to seventeen. Following throat swabbing of all the residents, four carriers of toxigenic strains of *C. diphtheriae* were detected and isolated. Schick testing revealed that twenty-two of the fifty-seven (39 per cent) were Schick positive; that is, without adequate immunity to diphtheria. Appropriate immunization procedures were instituted following Moloney testing. The matter of adequate immunization for inmates of welfare homes in the rest of the State was also reviewed.

Hydatid Disease

In 1966, hydatid disease was declared a notifiable disease under the Public Health Act, 1902, as amended, and during that year four cases were notified. In 1967 a total of thirteen cases and six deaths were notified. However, a review of the records of seven large Sydney hospitals carried out this year showed that forty cases of hydatid disease were treated during 1967 and that the notifications received did not reflect the true incidence.

Of the twenty-nine cases and four deaths due to hydatid disease notified this year, ten cases and two deaths were notified in the metropolitan area. The geographical source of the infection is often difficult to establish because of the variable and often long interval between infection and diagnosis, and the patient has often travelled extensively during this period.

Six cases and two deaths were reported from the Riverina Health District and eight cases from the Western Health District.

Infectious Hepatitis

A marked decrease in the incidence of infectious hepatitis was observed in New South Wales this year. Two thousand five hundred and forty cases and 11 deaths were notified in the State, a decrease of 37 per cent of last year's figure of 4,032 notifications. The incidence was the lowest reported since 1957.

There was a decrease of 17 per cent of notifications in the metropolitan area and a decrease of 54 per cent in the remainder of the State notifications compared with 1967.

Outbreaks of hepatitis were investigated including those at Merimbula and Coraki. In Sydney twenty-one investigations were carried out. Most of these involved outbreaks of hepatitis in schools in the Western Suburbs. Departmental medical officers gave advice on preventive measures, and in one instance advised mass gamma globulin prophylaxis.

Influenza

Many cases of influenza occurred in July and August; the true incidence is not known as influenza is not notifiable. A majority of the cases were undoubtedly due to A2 strains and isolations of the virus have shown it to be closely related if not identical with the A2/Tokyo/67 strain. A few isolations of the A2/Hong Kong/68 strain were also made in September, but the total number believed to have been affected by this strain was small.

Typhoid

Thirteen cases of typhoid fever were notified. In four of these the infection was apparently acquired during travel overseas and in one case the infection was believed to have been acquired from an overseas visitor. In two instances the source of the infection was traced to a member of the patient's family, the families in both cases being New Australian.

Four single cases of typhoid fever were notified in the metropolitan area during the year, in Australians who have not had overseas exposure. The phage group of the organism was different in each case and extensive investigations did not reveal the source of the infection.

Malaria

All save one of the fifty-six cases notified were imported, the infection most commonly being acquired in Vietnam or New Guinea. The one case where infection originated in N.S.W. is also the only notified fatal case. The patient was a woman with chronic pyelonephritis who was given blood transfusions during the course of her illness. She developed a high pyrexia and was re-admitted to hospital some weeks after the transfusion. A diagnosis of malaria was made from blood slides, but she failed to respond to antimalaria chemotherapy and died 2 days after admission. Extensive investigations carried out by the Red Cross Blood Transfusion Service failed to establish which of the seven possible donors could have been responsible.

HANSEN'S DISEASE (LEPROSY)

At the end of 1968 there were twenty-two listed patients with Hansen's Disease, as follows:

				Male	Female
Isolated at the Institute of Tropical Medicine	..	..	..	5	4
Under domiciliary surveillance	..	..	..	10	3

A close liaison is maintained by the Department with the Physician-in-Charge of the Infectious Diseases Division, the Prince Henry Hospital, and with the Professor of Tropical Medicine at the School of Public Health and Tropical Medicine on all matters concerning the care and control of the patients.

Surveillance is maintained on thirteen ex-patients and twenty-seven persons who have had close contact with Hansen's Disease patients prior to their diagnosis.

New Cases

An 8-year old boy, a native of India, who has been in Australia 1 year, presented with a swollen and tender hand with some decreased movement. Following biopsy of soft tissues of the hand and a subsequent nerve biopsy the diagnosis of tuberculoid leprosy was established.

A 36-year old male Australian presented with a burn to his leg, which he stated was painless. He later developed generalized erythematous maculopapular areas which were insensitive to touch. No acid fast bacilli were detected; however, the lepromin test was positive and the diagnosis of leprosy was established. It is believed he contracted the disease in New Guinea where he had lived for some years.

A 34-year old native of Noumea, New Caledonia developed signs of lepromatous leprosy for which he sought medical advice soon after arrival in Australia. Acid fast bacilli were seen in skin scrapings. The patient was subsequently detained in the Institute of Tropical Medicine.

VENEREAL DISEASES

There was a rise in the number of notifications of gonorrhoea during the year. The total, 4,943, was the third highest annual total since the Act came into force in December 1920 and the highest since 1923. This rise was also reflected by an increase of 41 per cent compared with last year in the number of cases treated in the Divisional clinic.

The total number of syphilis cases notified in 1968 fell from 610 in 1967 to 513, but the proportion in an infectious stage rose slightly.

Divisional clinic

This clinic is for males only, and in 1968 of all the reported cases in males for the whole State 57 per cent of the gonorrhoea cases and 28.5 per cent of the syphilis cases were treated in the clinic.

Nine thousand three hundred and eighty-eight patients presented themselves at the clinic for examination and diagnosis during the year, a rise of 21 per cent. Of these 2,523 (26.9 per cent) were found to be suffering from notifiable venereal diseases.

The numbers of cases of non-gonococcal urethritis (which is not notifiable) treated in the clinic are shown for 3 years:

No. of cases (N.G.U.)	..	..	..	..	..	..	..	1966	1967	1968
								2,238	2,437	2,920

The total number of attendances at the clinic was 53,595. Included in this total are 27,411 attendances for prophylaxis. Eight hundred and eighty-four seamen were registered during the year compared with 847 in 1967.

Venereal Diseases Act, 1918, as amended

Five thousand two hundred and ninety-seven notifications of venereal disease were received during the year. A further 176 cases, diagnosed in the Division but not notified subsequently, have been added to the total, making this 5,473 for the year.

Noteworthy in the statistics which follow are the increased notified incidence of gonorrhoea, the decline in the proportion of cases both of gonorrhoea and syphilis notified by private practitioners (18.6 per cent and 16.6 per cent compared with 29.8 per cent and 20.5 per cent respectively in 1967) and the unsatisfactory sex ratios indicating that many diseased women were not brought under treatment.

Gonorrhoea

Four thousand nine hundred and forty-three cases were recorded, an increase of 16.8 per cent in the total for 1967.

Four thousand five hundred and thirty-seven cases (90 per cent) were from the Metropolitan Health District.

The proportion of cases notified by private practitioners was 18.6 per cent. The sex ratio of cases was 5.9 males to 1 female.

The proportions of cases occurring in the age-group 15 to 19 years are shown for the last 3 years:

	1966	1967	1968
Percentage of cases in age-group { Males	22·8	18·9	19
15-19 { Females	44·5	38·3	38·7

Syphilis

Five hundred and thirteen cases were recorded, of which 331 (64·5 per cent) were in an early infectious stage. The total for the year was 97 less than that for 1967, a decrease of 15·9 per cent.

Four hundred and fifty (87.7 per cent) of the cases were from the metropolitan area.

The proportion of the total notified by private practitioners was 16·6 per cent.

The sex ratio of syphilis cases was 3·3 males to 1 female.

The proportions of cases in the 15–19 age group were:

						1966	1967	1968
						per cent	per cent	per cent
Males	..	..	..	..	..	4.3	4.8	5.7
Females	..	..	..	..	..	19	17.6	7.3

Notification Rates

The crude notification rates per 100,000 mean population are shown for three years:

			1966	1967	1968
Gonorrhoea: Whole State	..	..	105	98	113
Metropolitan	..	..	154	146	172
Syphilis: Whole State	..	..	13	14	12
Metropolitan	..	..	18	21	17

Age-specific notification rates per 100,000 population

			1967			1968		
			M.	F.	P.	M.	F.	P.
Gonorrhoea	..	15-19	355	132	246	413	149	284
		20-24	725	121	461	864	132	509
		25-29	492	57	281	570	59	323
Syphilis	..	15-19	11	16	14	10	5	8
		20-24	46	19	33	39	19	29
		25-29	73	19	47	47	20	34

Notification of Persons Probably Responsible for Infection. Section 9(2A)

The following figures show the number of persons notified under section 9 (2A) by Health District, disease and sex:

Health District	Gonorrhoea		Syphilis	
	Males	Females	Males	Females
Metropolitan				
(a) Divisional Clinic .. .. .	..	127	2	1
(b) Hospitals, private practitioners, other Health Districts, &c.	10	31	4	2
Newcastle .. .. .	..	..	..	..
Disease not stated .. .. .	..	4	..	..
South Coast .. .. .	..	2	..	..
Western	1	9	2	2
North Coast	3	8	5	1
North Western	2	21	..	..
Riverina	1	8	..	1
Broken Hill				
	17	210	13	8
Total: N.S.W.				

Although not notified under this section of the Act, the U.S.A. military authorities forwarded reports concerning 88 women allegedly with gonorrhoea and 5 with syphilis. Of these, insufficient information for any action to be taken was given for 71 women. The others were informed of the alleged infection and advised to seek medical attention.

Results of Departmental action

(a) Metropolitan area

The 127 females reported from the divisional clinic means that only 5·3 per cent of the males treated knew the source of infection. Twenty-six of the 127 considered responsible for infection were wives. Eighty-five women attended the Rachel Forster Hospital, where the infection was proved in 31 cases (36 per cent). Nine contacts attended other hospitals and 30 attended private practitioners.

Of the syphilis contacts notified from the clinic, one male attended the clinic and the other a private practitioner; and the female attended the Rachel Forster Hospital.

Of the contacts notified from outside the Division, 27 attended hospitals, 9 sought treatment by private practitioners, and the names and addresses of another 9 were referred to other health authorities.

(b) Health Districts

The contacts named in the Western Health District were written to and asked to attend their own doctor or local hospital for medical examination and treatment. There was no further follow-up.

				Medically examined	Referred elsewhere	Not traced
Newcastle	..	..	..	4	..	..
South Coast	..	..	..	1	..	1
North Coast	..	..	..	17	..	..
North Western	..	..	..	10	7	6
Riverina	..	..	..	8	2	..
Broken Hill	..	..	..	1	..	..

Notification of Default (Sec. 10)

One thousand two hundred and sixty-four defaulters were notified from the Metropolitan Health District. Of these 572 (45·3 per cent) remained in default.

Twenty-nine defaulters were notified in the Newcastle Health District; 3 in the North Western Health District (2 untraced); 1 in the South Coast Health District; 3 in the Western Health District; 1 in the Riverina Health District; and none in the North Coast and Broken Hill Health Districts.

Prosecutions

Under section 5 (failure to continue treatment)

Summonses were issued against 715 persons compared with 637 in 1967. Eight of these persons were in the Newcastle Health District, the remainder being in the metropolitan area.

Four males were arrested. One was fined \$26 and the others completed treatment after being placed on verbal recognizance.

Warrants for arrests were issued in 9 other cases, but these were subsequently withdrawn after some months as the persons had not been traced.

Table 1: Shows the cases of syphilis and gonorrhoea by Health Districts and source of report.

Table 2: Shows age and sex distribution of all venereal diseases for the year.

Table 3: Shows the age-sex grouping of syphilis cases by stage of disease.

TABLE 1

(Figures for 1967 are shown in brackets)

Source of Report	Gonorrhoea		Syphilis	
	Male	Female	Male	Female
Navy	104 (94)	....	3 (1)	....
Army	158 (110)	....	3 (5)	....
Air Force	1 (2)	....	— (—)	....
Metropolitan H.D.—				
Private Practitioners	620 (840)	78 (148)	41 (60)	6 (12)
Hospitals	559 (363)	596 (392)	65 (69)	55 (73)
Divisional Clinic	2,411 (1,704)	— (—)	111 (138)	— (—)
Newcastle H.D.—				
Private Practitioners	36 (31)	6 (7)	5 (6)	2 (2)
Hospitals	129 (217)	14 (51)	9 (16)	2 (2)
South Coast H.D.—				
Private Practitioners	28 (22)	3 (3)	— (4)	1 (—)
Hospitals	24 (21)	2 (2)	2 (2)	1 (2)
North Coast H.D.—				
Private Practitioners	33 (46)	4 (4)	— (2)	3 (1)
Hospitals	1 (—)	1 (—)	1 (—)	1 (—)
North Western H.D.—				
Private Practitioners	41 (51)	5 (8)	— (4)	1 (7)
Hospitals	— (1)	— (—)	— (—)	— (—)
Western H.D.—				
Private Practitioners	26 (29)	3 (1)	10 (7)	10 (8)
Hospitals	— (—)	— (—)	5 (3)	3 (1)
Riverina H.D.—				
Private Practitioners	31 (50)	3 (11)	2 (8)	— (2)
Hospitals	10 (4)	— (—)	— (—)	— (—)
Broken Hill (City only)				
Private Practitioners	3 (4)	— (2)	1 (—)	— (—)
Hospitals	3 (1)	— (—)	2 (—)	— (—)
Remainder of State				
Private Practitioners	— (2)	— (1)	2 (1)	1 (1)
Hospitals	— (—)	— (—)	— (—)	— (—)
Diagnosed in Division but not notified	10 (10)	— (—)	127 (114)	38 (59)
Total	4,228 (3,602)	715 (629)	389 (440)	124 (170)

TABLE II—CASES OF VENEREAL DISEASE NOTIFIED DURING 1968 BY DISEASE, AGE AND SEX

	0-14		15-19		20-24		25-29		30-39		40-49		50-59		60-69		70 and over		Age not Stated		Totals		Grand Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea	1	19*	804	277	1,627	233	867	84	597	65	234	21	54	14	14	2	1	..	29	..	4,228	715	4,943
Syphilis	5	3	20	9	73	33	71	28	105	22	42	11	29	6	14	9	13	1	17	2	389	124	513
Chancroid .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lymphogranuloma Venereum .. .. .	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Granuloma Inguinale .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gonorrhoeal Ophthalmia	7	8	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	..	16
Totals	13	30	824	286	1,702	266	938	112	702	87	276	32	83	20	28	11	14	1	46	2	4,626	847	5,473

• In this total—12 girls were aged 14
3 girls were aged 13
1 girl was aged 12
1 girl was aged 7
1 girl was aged 6
1 girl was aged 2

TABLE III—SYPHILIS: AGE-SEX GROUPING BY STAGE OF DISEASE

	0-14		15-19		20-24		25-29		30-39		40-49		50-59		60-69		70 and over		Not Stated		Totals		Grand Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Primary...	2	1	12	6	42	10	39	3	54	2	12	5	5	..	3	1	..	8	1	177	29	206	
Secondary ..	1	..	5	..	13	8	18	7	21	5	3	4	4	1	2	1	..	5	..	72	26	98	
Latent 1st Year ..	..	..	2	..	6	3	5	..	5	2	1	..	3	..	..	..	..	..	..	22	5	27
Cardio-vascular ..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	5	..	..	6	2	8
C.N.S. ....	..	..	..	..	..	..	..	..	2	..	2	..	6	..	5	3	5	1	1	21	4	25
All other Latent ..	..	..	3	2	11	12	11	18	18	13	23	2	11	5	4	2	3	3	..	87	55	142
Congenital under 1 year of age ..	2	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	4
Congenital over 1 year of age ..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3
Totals	5	3	22	9	73	33	74	28	100	22	42	11	29	6	14	9	13	1	17	389	124	513	

TUBERCULOSIS DIVISION

ANNUAL REPORT FOR PERIOD ENDING 31st DECEMBER, 1968

Director: K. W. H. HARRIS, E.D., M.B., B.S., D.P.H., F.A.C.M.A., F.C.C.P.

Location: 86-88 George Street North (Headquarters). Chest X-ray Centre, 697 George Street West (X-ray Clinic)

Function: No change in policy, nor function of the Division has occurred in the twelve month period

NOTIFICATION OF TUBERCULOSIS

There was a further very slight decrease in the notification of new cases of tuberculosis for 1968, (850) as compared with 1967 (853), reactivated cases showed a decrease for 1968 (72) as compared with 1967 (83). The overall total for new active and reactivated cases was less in 1968 (922) as compared with 1967 (936). Details by age, sex, type of tuberculosis and stage of disease are set out in Tables I, II and III.

INCIDENCE OF TUBERCULOSIS

The rate per 100,000 of the population of cases of tuberculosis was 19.39. This can be compared with rates per 100,000 since 1950, shown in figure 1. The death rates for the same period, also shown, are discussed in a later paragraph. Of the new cases of tuberculosis notified in New South Wales during 1968 there were 747 cases of pulmonary tuberculosis, 103 cases of non-pulmonary tuberculosis and 72 were reactivated. With relation to total annual notifications the key years in the tuberculosis campaign would be 55.96 in 1950 (the date of commencement of the State Campaign against tuberculosis), 62.88 in 1954 (the highest rate) and 19.39 in 1968 (the lowest rate). The trend of decrease continues, but not quite in accord with expectations, as it had been anticipated to be greater.

Figure 1

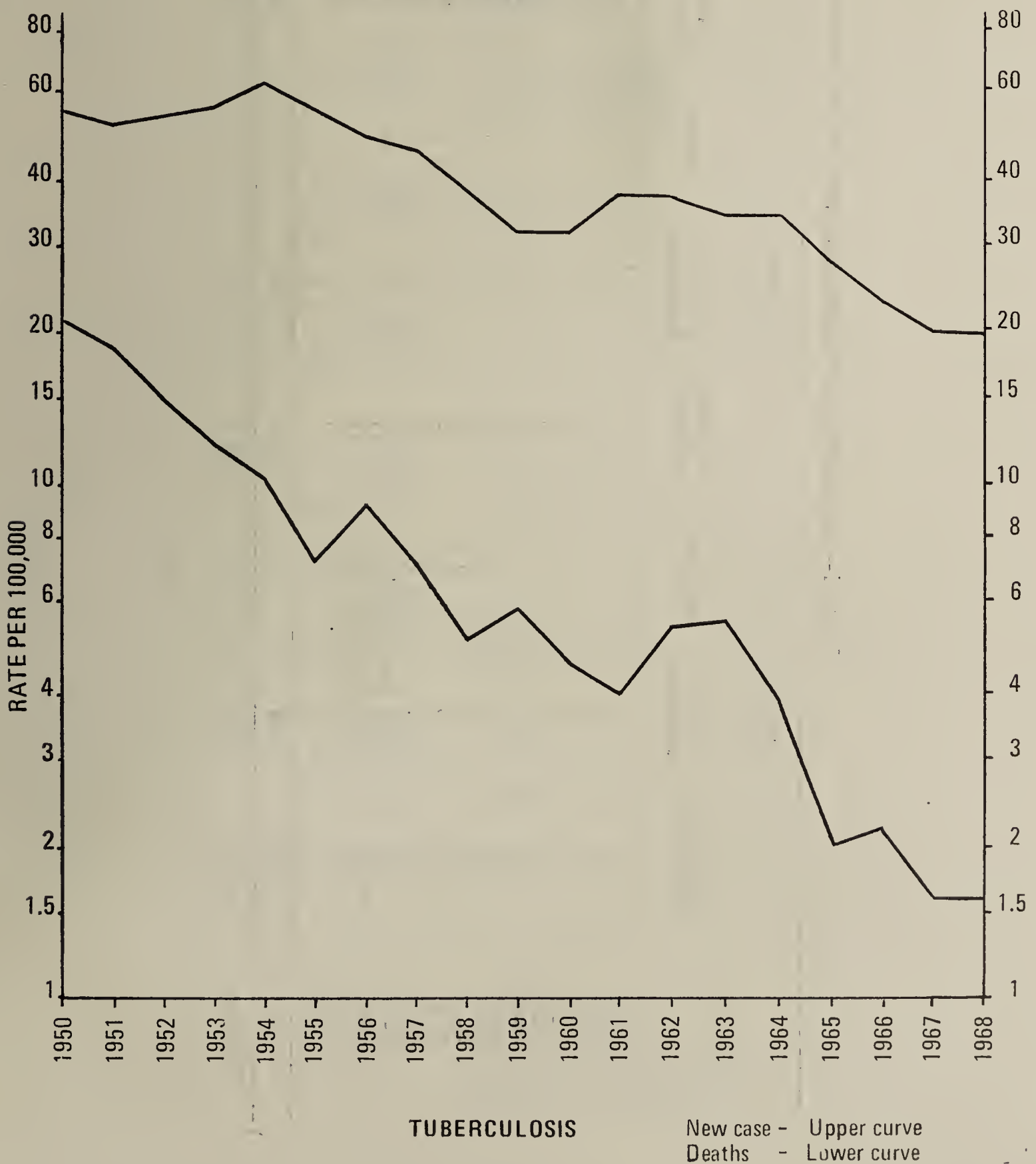


TABLE I—NOTIFICATIONS OF TUBERCULOSIS FOR 1968 SHOWING AGE, SEX AND FORM

Age Group	Males			Females			Persons			Total	Percentage
	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Reactivated	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Reactivated	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Reactivated		
0-4	5	5	..	5	11	..	10	16	..	26	2.8
5-9	4	7	..	2	3	..	6	10	..	16	1.7
10-14	2	1	..	2	2	..	4	3	..	7	0.8
15-19	5	1	..	9	1	..	14	2	..	16	1.7
20-24	23	3	1	12	1	1	35	4	1	40	4.3
25-29	18	..	..	10	4	..	28	4	..	33	3.6
30-34	22	1	2	13	5	1	35	6	3	41	4.4
35-39	38	3	5	12	4	5	50	7	10	60	6.6
40-44	58	5	7	19	6	5	77	11	8	98	10.6
45-49	51	6	5	16	3	1	67	9	7	84	9.1
50-54	65	5	5	14	5	2	79	10	8	96	10.4
55-59	54	1	6	18	1	2	72	2	12	82	8.9
60-64	67	3	11	16	6	1	83	9	12	104	11.3
65-69	49	2	6	12	3	1	61	5	7	73	7.9
70-74	45	..	6	12	..	1	57	1	7	64	7.0
75+	53	1	8	16	3	..	69	4	8	81	8.8
Not Stated	..	..	..	..	1	..	..	1	..	1	0.1
Total	559	44	57	188	59	15	747	103	72	922	100.0
Percentage	60.6	4.8	6.2	20.4	6.4	1.6	81.0	11.2	7.8	100.0	100.0

TABLE II—COMPARISON OF FORM AND/OR STAGE OF DISEASE FOR 1968 AS COMPARED WITH PRECEDING YEARS

Form and/or stage of disease	1958		1959		1960		1961		1962		1963		1964		1965		1966		1967		1968	
	Cases	Per-centage of total noti-fi-cations	Cases	Per-centage of total noti-fi-cations	Cases	Per-centage of total noti-fi-cations	Cases	Per-centage of total noti-fi-cations	Cases	Per-centage of total noti-fi-cations	Cases	Per-centage of total noti-fi-cations	Cases	Per-centage of total noti-fi-cations	Cases	Per-centage of total noti-fi-cations	Cases	Per-centage of total noti-fi-cations	Cases	Per-centage of total noti-fi-cations	Cases	Per-centage of total noti-fi-cations
Primary .. .. .	..	..	..	..	..	..	10	0·6	10	0·6	17	1·2	10	0·7	17	1·5	21	2·1	19	2·3	24	2·7
Minimal	418	29·88	346	29·68	496	32·35	493	33·9	552	37·8	380	27·7	346	24·7	274	24·4	169	17·5	178	19·0	191	20·7
Moderately Advanced	692	49·46	540	46·31	675	44·04	622	42·8	526	36·0	491	35·7	527	37·6	568	50·5	520	53·9	468	50·0	437	47·4
Advanced	134	9·58	147	12·60	156	10·17	132	9·1	117	8·0	99	7·2	157	11·2	77	6·9	96	10·0	85	9·0	74	8·0
Pleural Effusion .. .. .	..	..	..	..	11	0·72	29	2·0	36	2·5	28	2·0	51	3·6	18	1·6	20	2·1	28	2·9	21	2·3
Extra Pulmonary	52	3·72	39	3·35	78	5·08	90	6·2	113	7·8	70	5·1	88	6·3	73	6·5	84	8·7	75	8·0	103	11·1
Death Certificate	102	7·29	94	8·06	117	7·65	79	5·4	106	7·3	74	5·4	71	5·05	*	*	5	0·5	..	..	..	..
Reactivated .. .. .	..	..	..	..	..	..	..	..	..	..	142	10·3	113	8·05	97	8·6	50	5·2	83	8·8	72	7·8
Quiescent .. .. .	..	..	..	..	..	..	..	..	..	..	67	4·9	35	2·5	*	*	*	*	*	*	*	..
Atypical .. .. .	..	..	..	..	..	..	..	..	..	..	7	0·5	4	0·3	*	*	*	*	*	*	*	..
Not Stated	1	0·07	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	1,399	100·00	1,166	100·00	1,533	100·00	1,460	100·0	1,455	100·00	†1,375	100·00	†1,402	100·00	†1,124	100·00	†965	100·00	†936	100·00	†922	100·00

* Included in other headings. †This includes reactivated cases.

The non-pulmonary notifications can be dissected as follows:

Non-Pulmonary Cases—1968

Adenitis and Cervical Glands	..	..	..	..	..	..	..	41
Adenitis and minimal pulmonary	..	..	..	..	..	..	..	1
Adenitis and moderately advanced pulmonary	..	..	..	..	..	..	..	1
Abdominal and advanced pulmonary	..	..	..	..	..	..	..	1
Bone	..	..	..	..	..	..	..	4
Bone and advanced pulmonary	..	..	..	..	..	..	..	1
Breast Abscess	..	..	..	..	..	..	..	1
Genital	..	..	..	..	..	..	..	9
Joint	..	..	..	..	..	..	..	2
Liver	..	..	..	..	..	..	..	1
Miliary	..	..	..	..	..	..	..	2
Miliary and renal	..	..	..	..	..	..	..	1
Meningeal	..	..	..	..	..	..	..	3
Meningeal and primary pulmonary	..	..	..	..	..	..	..	1
Meningeal and moderately advanced pulmonary	..	..	..	..	..	..	..	1
Pelvic	..	..	..	..	..	..	..	3
Renal	..	..	..	..	..	..	..	30
Renal and primary pulmonary	..	..	..	..	..	..	..	1
Renal and minimal pulmonary	..	..	..	..	..	..	..	1
Renal and moderately advanced pulmonary	..	..	..	..	..	..	..	1
Spinal abscess	..	..	..	..	..	..	..	8
Total	..	..	..	..	..	..	..	114

Death Rate

There has been a further decrease in the death rate. The follow-up of each death reported from or related to tuberculosis has been continued. As in previous years those deaths indirectly related to tuberculosis contributed largely. As in previous years the majority of deaths were in the over fifty years age group.

The total number and classification of deaths from tuberculosis in 1968 was:

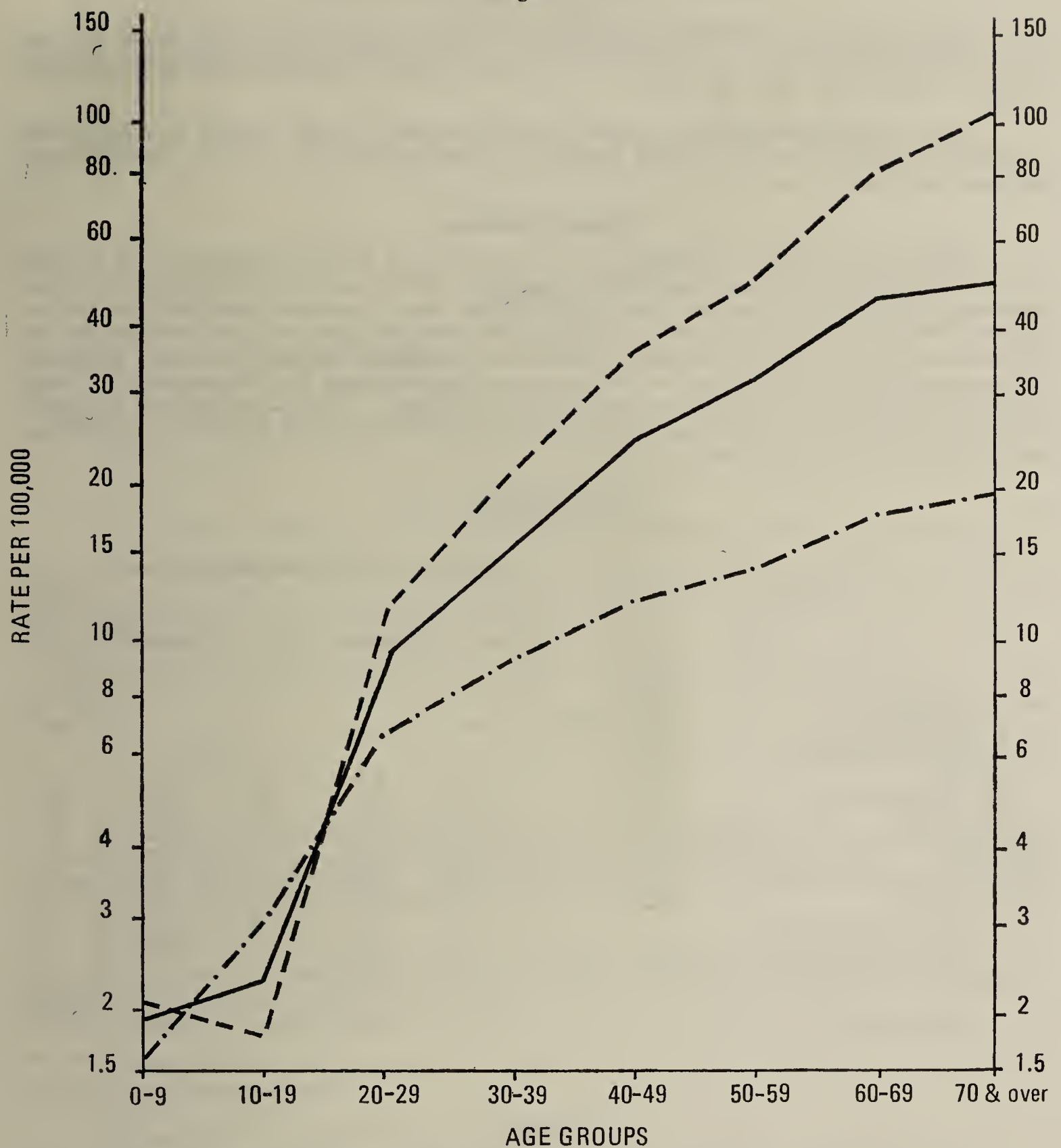
								Male	Female	Total
0	109	Respiratory Tuberculosis, associated with an occupational disease of the lung (silicosis)	..	..	..	..	..	3	..	3
0	119	Pulmonary Tuberculosis	..	..	..	..	..	30	11	41
0	130	Tuberculosis of the meninges and central nervous system	..				..	..	1	1
0	179	Tuberculosis of Adrenal Glands	..	..	..	..	..	..	1	1
0	190	Late effects of tuberculosis	..	..	..	..	..	15	5	20
								48	18	66

Compared with 1967 a decrease has been noted from 72 to 66. However, it should be stated that under the new International Classification of Diseases it is possible to include as a separate entity those cases where death may be regarded as due to the late effects of tuberculosis; and these are 20 out of the total of 66. As before, cases where the patient's cause of death was not related to tuberculosis have been excluded. This represents a rate of 1.51 per 100,000 as compared with 1.67 for 1967.

Age and Sex

In accord with the pattern of preceding years the incidence of new active cases of tuberculosis is highest in the group 50 years of age and above, with predominance in the above 70 group and most marked in males.

Figure 2



PULMONARY TUBERCULOSIS 1968

New active case, Age, Specific notification rates

Males ---
 Females -.-.-
 Persons —

The sex ratio for tuberculosis male/female has a slight decrease for males in 1968. These ratios since 1958, inclusive, are as under:

Year			Total notifications (including reactivations)	Total males	Total females	Ratio male to female
1958	--	--	1,399	959	440	1: 0.46
1959	--	--	1,166	789	377	1: 0.48
1960	...	..	1,533	1,068	465	1: 0.45
1961	...	...	1,455	1,041	414	1: 0.40
1962	...	..	1,460	1,040	420	1: 0.40
1963	..	..	1,375	963	412	1: 0.43
1964	..	..	1,402	951	451	1: 0.47
1965	..	..	1,124	821	303	1: 0.36
1966	..	..	965	673	292	1: 0.43
1967	..	..	936	681	255	1: 0.37
1968	..	..	922	660	262	1: 0.40

Stage of Disease

As in previous years when commenting on the figures shown in table II it should be noted that no statistics in this form were kept prior to 1954, and since then further changes in classifications occurred in 1960, 1961, 1963 and 1965.

Little significant change has occurred. There has been a slight increase in minimal and reactivated cases, associated with a slight decrease in moderately advanced, advanced, pleural effusion and reactivated cases.

Source of discovery

Table III shows that the greatest source of discovery of all cases continued to be by mass miniature radiography. As reactivations are included for the first time in the table the actual source percentage from mass radiography appears slightly lower than in previous years, 34.2 per cent, as compared with 35.6 per cent in 1967. Excluding reactivations, miniature mass radiography was the source in 36.42 per cent of the cases. There was no significant change in the source percentage for pulmonary cases for this year for the various categories except for the reduction in Death Certificate notifications from 26 (3.4 per cent) to 1 (0.1 per cent). In the non-pulmonary cases there was a marked increase in notifications from Private Medical Practitioners direct from 22 (29.3 per cent) in 1967 to 43 (41.3 per cent) in 1968.

TABLE III

Source	Pulmonary Cases		Non-Pulmonary Cases		Total cases
	No.	Percentage	No.	Percentage	
Mass Community Surveys—					
1. T.B. Division 127 }	280	34.2	..	..	280
2. Anti T.B. Association 153 }					
Private Medical Practitioners—					
(a) direct	51	6.2	43	41.3	94
(b) via Chest Clinics	86	10.5	10	9.6	96
General Hospitals	117	14.3	43	41.3	160
Chest Hospitals, Annexes and Sanatoria	32	3.9	1	1.0	33
Chest Clinics	177	21.6	2	1.9	179
Repatriation Clinics and Hospitals	31	3.8	1	1.0	32
Death Certificates	1	0.1	..	..	1
Special Groups—					
(a) Mental Hospital Surveys	30	3.7	2	1.9	32
(b) Gaol Surveys	3	0.4	1	1.0	4
(c) Ante-Natal Hospitals	3	0.4	..	..	3
(d) Other	7	0.9	1	1.0	8
Total Notifications	818	100.00	104	100.00	922

Migrants

The total number of migrants notified during 1968 was 80—51 males and 29 females. These figures do not include the reactivated cases, nor cases notified by death certificate. It can be shown that the migrant percentage is 9.42 per cent as compared with 20.97 per cent in 1967. The total decrease from 173 to 80 is greatly in excess of the general drop of notifications.

Of the 80 migrant notifications:

- 9 were notified within one year of arrival.
- 29 were notified within one to five years of arrival.
- 20 were notified within six to ten years of arrival.
- 22 were notified over ten years of arrival.

The major decrease was noted in this latter group.

The country of origin is as follows:

Argentina 1	Germany 2	Poland 3
Austria 2	Greece 8	United Kingdom—
Belgium 1	Holland 1	England 11
China 7	Hungary 2	Scotland 5
Cyprus 1	India 2	Wales 1
Croatia 1	Ireland 1	U.S.A. 1
Egypt 2	Italy 13	U.S.S.R. 1
Estonia 2	Malta 3	Yugoslavia 5
Finland 1	Norway 1	
France 1	Philippines 1	Total 80

The male to female ratio is 1:0.57 which is an increase in the female ratio from 1:0.39 for 1967, and not in accord with the Australian born ratio. The preponderance of migrant notifications is under the age of 50, 62 out of 80 being in this group.

TUBERCULOSIS ALLOWANCE SECTION

Table IV shows the number of patients receiving the Tuberculosis Allowance who are having Institutional or Domiciliary Treatment as at 31st December, 1968. Also included is the length of time these persons have been in receipt of this allowance.

TABLE IV—PERSONS RECEIVING THE TUBERCULOSIS ALLOWANCE IN NEW SOUTH WALES AS AT 31ST DECEMBER, 1968

Location of Patients								
Receiving Treatment in Institutions			Receiving Treatment outside Institutions			Total Persons Receiving Treatment		
Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
107 ~	19	126	120	22	142	227	41	268

Period in Receipt of Allowance						
Period				Males	Females	Persons
Under 1 year	..	..	..	176	25	201
1-2 years	..	..	..	23	9	32
2-3 years	..	..	..	5	1	6
3-4 years	..	..	..	3	3	6
4-5 years	..	..	..	5	..	5
Over 5 years	..	..	..	15	3	18
Total	..	..	..	227	41	268

The number of patients receiving the Tuberculosis Allowance 268 in 1968 is less than in 1967, which were 298, and related to the decrease in notifications over the latter two years. Of this number 227 were males and 41 were females. Of the total of 268, 126 were receiving treatment in hospital and 142 were receiving home treatment at the end of the year.

Twelve cases were nominated by the Tuberculosis Housing Committee for “out of priority” housing to the Housing Commission of New South Wales. Seven of the above number were allocated housing, four cases were rejected and one case is still pending. A further seven cases were referred to Local Authorities for action.

Of the five cases pending at the end of 1967, four were rejected and a decision has not been received on the remaining one.

Reasons given for rejection by the Commission were:

Under eligible age	..	..	..	..	..	1
Patient unable to care for self	..	..	..	..	..	1
No reason given	..	..	..	..	..	3
Present accommodation satisfactory	..	..	..	..	..	1
Lack of co-operation by patient	..	..	..	..	..	1
Sponsorship withdrawn by T.B. Housing Committee	..	..	..	..	..	1

RADIOLOGICAL SURVEYS

Mass Radiological Surveys were carried out by the Tuberculosis Division, the Anti-Tuberculosis Association of New South Wales. Statistics from each organization will be given later in the report. Statistics for the total radiography campaign are given in table V.

TABLE V—X-RAY CAMPAIGNS IN NEW SOUTH WALES

<i>Number X-rayed—all ages</i>	<i>Psychiatric Hospitals</i>
842,968	17,057

Sources of these are mass radiological surveys carried out by the Tuberculosis Division, the Anti-Tuberculosis Association of New South Wales, X-rays at the Departmental Chest Centre, the Anti-Tuberculosis Association of New South Wales Clinic, Psychiatric Hospitals and by special X-ray surveys and routine X-ray films taken on 70 mm units in Public Hospitals.

Age	Active	Suspect active	Inactive	Other conditions
Under 15 .. ..	..	..	..	..
15-19	5	1	25	66
20-24	5	4	138	231
25-29	7	7	197	163
30-34	12	1	265	201
35-39	19	6	356	235
40-44	27	12	540	290
45-49	23	8	578	405
50-54	21	15	600	514
55-59	18	10	609	604
60-64	19	7	558	648
65-69	15	10	416	485
70-74	7	3	271	298
75+	12	2	288	390
Not dissected by age..	1	55	339	416
	191	141	5,180	4,946

In addition 15,938 films were taken on 70 mm units as part of Chest Clinic reviews.

PSYCHIATRIC HOSPITAL SURVEYS.

(from both mobile and 70 mm units installed in hospital)

Mobile Units 6,314
70 mm Units in Psychiatric Hospitals 10,743 } 17,057

Age	Active	Suspect active	Inactive	Other conditions
All ages	27	3	174	142

Radiological Surveys—Division of Tuberculosis

Statistics for this Divisional activity are to be seen in table VI. These surveys are reported under separate headings:

- A. Mass Miniature Surveys.
- B. The Chest X-ray Centre.
- C. Special Surveys.

A. MASS MINIATURE SURVEYS

During the year 1968, the following areas were surveyed:

(1) *Fourth Round Surveys*

- Shires of Gunning
- Crookwell
- Mulwaree
- Coolamon
- Narrandera
- Carrathool
- Leeton
- Wade
- Murrumbidgee
- Central Darling
- Wentworth
- Balranald
- City of Broken Hill
- Albury

- Shires of Wakool
- Murray
- Lockhardt
- Urana
- Berrigan
- Corowa
- Culcairn
- Hume
- Tumbarumba
- Tumut
- Tallaganda
- Hay

TABLE VI—SUMMARY OF X-RAYS TAKEN BY TUBERCULOSIS DIVISION FOR THE YEAR ENDING 31ST DECEMBER, 1968

	1	2	3	4	5	6	7	8	9	10	11	12
	Total of Number of persons X-rayed	Estimated percentage of population of proclaimed area	Number of persons rayed on large films	Percentage	Technical Faults	Percentage active Tuberculosis	Cases of active Tuberculosis	Cases per 1,000 micro films	Cases of suspect active Tuberculosis	Cases of Inactive Tuberculosis	Other abnorm- alities	Cases under investigation excluding cases in column 9
Metropolitan	164,970	*80·7	1,160	0·70	346	0·21	28	0·11	3	554	1,613	39
Country	128,926	*85·4	863	0·67	755	0·59	27	0·21	9	355	1,302	37
Total MMR	293,896	*..	2,023	0·68	1,101	0·37	55	0·19	12	909	2,915	76
Chest X-ray Centre	39,642	..	331	0·84	47	0·12	18	0·45	5	232	466	12
Special Surveys	8,752	..	38	..	15	..	..	..	1	40	91	6
Psychiatric Hospitals	2,968	..	69	2·32	59	1·99	9	3·03	..	36	79	..
Gaols	978	..	4	0·41	1	0·10	1	1·02	..	3	4	..

* Please see section on Compulsory Surveys.

(2) *Fifth Round Surveys*
City of Goulburn

Municipality of Deniliquin
Peak Hill
Shires of Shoalhaven
Jerilderie

Electoral District of Campbelltown
Bass Hill
Bankstown
East Hills

(3) *Sixth Round Surveys*
Municipalities of Penrith
Windsor
City of Blue Mountains
Electorate of Blacktown

(4) *Seventh Round Surveys*
Municipality of Kiama

A further 17 cases were notified from persons still under investigations following surveys carried out during 1967, bringing the total for the year 1967 to 65 with a case rate of 0.22 for that year.

The total number of X-ray films taken was 293,896 which was 2,090 less than the previous year.

The number of active cases of pulmonary tuberculosis discovered during the surveys was 55, representing 0.19 per 1,000 films taken, as against the corrected case rate 0.22 for the year of 1967.

A further 12 cases will probably be notified from persons now under investigations.

All units were functioning well and film technical faults were few, although higher than in previous years, representing 0.37 per cent for 1968 of all films taken as against 0.14 per cent for 1967. See table VI for relevant statistics.

B. CHEST X-RAY CENTRE

The total number of persons X-rayed at the Chest X-ray Centre was 39,642 which was 274 more than in the previous year.

Eighteen cases of active tuberculosis were discovered representing 0.45 cases per 1,000 films taken, as against the rate of 0.41 in the previous year.

A further five (5) cases are expected to be notified following completion of investigations.

Three (3) further cases were notified during the year 1968, from persons still under investigations following films taken in 1967, bringing the total for the year 1967 to twenty (20) with a case rate of 0.51 per 1,000 films taken. Of these, two (2) cases were reactivated, and previously known.

C. SPECIAL SURVEYS

A number of special surveys were conducted during the year:

- (1) Homes for Aged People, and factories from which active cases had been notified and Army Installations. The total number of persons X-rayed was 8,752 and one (1) case is expected to be notified on completion of surveys. Forty (40) cases of inactive tuberculosis and ninety-one (91) cases of other abnormalities were noted.
- (2) Psychiatric Hospital Surveys. Surveys were conducted of Rydalmere, Kenmore and Bloomfield Psychiatric Hospitals. The total number of persons X-rayed was 2,968, including staff. Amongst those found were nine (9) cases of active tuberculosis, thirty-six (36) cases of inactive tuberculosis and seventy-nine (79) cases of abnormalities were noted.
- (3) Penal Institutions. Goulburn Training Centre, Bathurst Gaol, Laurel Hill and Mannus Prisons were covered. The total number of X-rays were 978. One (1) case of active tuberculosis was found. Three (3) cases of inactive tuberculosis and four (4) cases of other abnormalities were noted.

The 70 mm X-ray unit at the State Penitentiary, Long Bay, continued operations during the year. The total number X-rayed was 3,418 and three (3) cases of active tuberculosis were discovered. Twenty-seven (27) cases of inactive tuberculosis and thirty-three (33) cases of other abnormalities were noted.

TABLE VII—ABNORMALITIES OTHER THAN TUBERCULOSIS REPORTED IN CHEST X-RAYS TAKEN BY THE TUBERCULOSIS DIVISION AND THE ANTI-TUBERCULOSIS ASSOCIATION OF NEW SOUTH WALES

	Country	City	Chest clinics and anti-Tuberculosis Association
Tumours—Malignant—			
Carcinoma of Lung—			
Proven	21	34	36
Radiological diagnosis	26	15	6
Secondary	34	18	9
Mesotheloma .. .. .	..	1	..
Reticuloma	1	1	..
Sarcoma .. .. .	..	1	..
Tumours—Benign	7	11	..
Cysts—			
Hydatid	10	..	..
Other	46	56	22
Substernal Goitre	108	94	17
Inflammatory—			
Acute—			
Pneumonitis and Pneumonia	134	295	232
Pleural Effusion	17	17	9
Chronic—			
Including bronchitis, bronchiectasis, emphysema, non-tuberculous scarring, Pleural scarring, etc.	1,104	1,150	585
Nocardia .. .. .	..	..	1
Varicella calcifications	8	10	1
Middle lobe syndrome	4	..	..
Non-specific Aetiology—			
Sarcoid	14	24	8
Lymphadenopathy	7	19	2
Interstitial fibrosis	7	25	9
Pulmonary Eosinophilia .. .. .	..	2	..
Industrial Diseases	41	22	27
Farmers Lung	1	..	..
Cardiovascular Abnormalities Reported	574	775	180
Diaphragmatic Abnormalities	124	143	20
Spontaneous Pneumothorax	5	5	16

OTHER CONDITIONS

A list of abnormalities of conditions other than tuberculosis which were discovered by both the Tuberculosis Division and the Anti-Tuberculosis Association of New South Wales is given in table VII.

Radiological Surveys—Anti-Tuberculosis Association of New South Wales

A. MASS SURVEYS

Statistics of Mass Radiological Surveys conducted by this organization are given in table VIII.

TABLE VIII—MASS RADIOLOGICAL SURVEYS—THE ANTI-TUBERCULOSIS ASSOCIATION OF NEW SOUTH WALES

Total No. of x-rays	Active Tuberculosis		Suspect active Tuberculosis	Inactive Tuberculosis	Other Conditions
	1968	1967			
Metropolitan Area— 153,447	19	47	20	1,355	1,348
Country Areas— 202,242	42	57	26	1,099	1,429

In addition to the figures reported in 1967 a further 39 cases were notified in 1968 resulting from these surveys, 11 in metropolitan area and 28 in country areas, bring the 1967 totals resulting from these surveys to 47 and 57 respectively.

B. SPECIAL SURVEYS

Although the special survey programme was somewhat modified only 7 active cases of tuberculosis and 1 suspect case were found from X-raying 34,314 persons. Six more cases were notified in 1968 which resulted from 1967 surveys, taking the total for 1967 to 13.

C. ANTI-TUBERCULOSIS ASSOCIATION CLINIC

As previously this unit has shown to be a high source of notifications. From a total of 18,690 X-rays, 23 active and 18 suspect active cases were found. In addition, 660 inactive cases of tuberculosis and 810 other conditions were discovered. The former figure compares with 33 active cases of tuberculosis found from this source in 1967.

D. PSYCHIATRIC HOSPITAL SURVEYS

From 3,346 patients and staff X-rayed, 57 cases of inactive tuberculosis, and 45 other conditions were discovered.

E. SYDNEY HOSPITAL UNIT (ANTI-TUBERCULOSIS ASSOCIATION OF NEW SOUTH WALES)

In 1968, 3 more cases were notified from surveys carried out in 1967, bringing the total to 9. During this year, 1968, 34,153 X-rays were taken with a yield of 6 active, 3 suspect active, 296 inactive tuberculosis cases and 176 other conditions. This "fixed" unit was of value during the 1968 City of Sydney compulsory survey and assisted in decreasing the number of mobile units required in the inner part of the city.

Routine Hospital X-ray Programme

The number of X-ray films taken by Miniature X-ray Units installed in Public Hospitals in 1968 was 53,452 as compared with 34,624 in 1967. However 15,938 films were taken as part of chest clinic reviews. From the 37,514 routine hospital X-rays taken, 16 cases of active tuberculosis, 55 suspect cases, 241 inactive cases and 388 other conditions were found. Corresponding figures for 1967 were 12 active, 49 suspect and 286 inactive cases.

From the 70 mm units installed in Psychiatric Hospitals, 10,743 X-rays were taken including staff. From these X-rays 18 active, 3 suspect, 91 inactive tuberculosis cases and 62 other conditions were discovered. This should be compared with 1967 when 19 active, 4 suspect and 93 inactive cases were found.

These units are functioning in Royal Prince Alfred, Royal North Shore, Manly, Parramatta, Canterbury and St George Hospitals. At the end of 1968 the Wollongong unit was properly staffed full-time. It is expected that the numbers should increase in 1969 particularly at Wollongong and St George Hospitals which have had staffing problems. Within the next year it is expected that either 70 mm or 100 mm units will be functioning at Sydney, Prince of Wales, Liverpool, Albury and Newcastle Hospitals.

Implementation of Compulsory Surveys

During the year the policy of following up of non-attenders at compulsory X-ray surveys was continued on the same limited scale as for the previous three years.

The following areas were chosen for implementation in the country areas—the Shires of Narrandera, Wade and Shoalhaven; the City of Broken Hill; and the Municipalities of Deniliquin and Singleton. In the Metropolitan areas the Electorates of East Hills and Phillip, and the Municipality of Campbelltown were selected.

Very satisfactory attendances were achieved in the country districts and no prosecutions were necessary. Information was laid against three persons for non-attendance in the East Hills electorate and the hearings will take place early in 1969. The follow up was not completed for the other areas during the year.

As a result of the follow up in the Electoral Districts of Maitland and Gosford during late 1967, three persons were successfully prosecuted, the fines and costs being \$32, \$52 and \$32 respectively.

Analysis of attendances at these surveys showed that calculation of the percentage of the population being X-rayed in the city is almost impossible while the surveys are proclaimed on an electoral basis.

The percentage attendances in the Penrith-Windsor area during the year was less than 80 per cent and it is known that this includes a significant number living outside the area and working in the industrial area at St Marys.

Attendances in other metropolitan areas were difficult to estimate, but it was found that at least 85 per cent attended the X-ray unit in the Campbelltown area. The attendances in the East Hills electoral area was significantly higher than the previous survey in 1965.

More accurate analysis of country surveys was possible. In those areas in which compulsion was implemented it was shown that 95 per cent of all eligible persons attended as compared with 81.9 per cent in those areas in which follow-up measures were not carried out.

Comparison with returns from previous years shows that there is thus a steadily increasing awareness by the population that these surveys should be attended by everyone 21 years of age and over.

EPIDEMIOLOGICAL SURVEYS

A reduction in the infection rate continues to be demonstrated when compared with 1967 and preceding years. Second, Fourth and Sixth year students from Secondary schools in the metropolitan area are included—no similar surveys were carried out in the Country Health Districts. Also included are statistics from National Servicemen at the 3 Training Battalion. The relevant table IX includes age groups tuberculin tested at the Divisional Headquarters in addition.

As has been past practice where a case of tuberculosis was notified from amongst the pupils or staff, arrangements with the school population were made for the skin testing, X-raying and where necessary referral to a Chest Clinic.

TABLE IX—EPIDEMIOLOGICAL TUBERCULIN TESTS

Age Group	Positive					
	Total Read	Not previously vaccinated with B.C.G.		Previously vaccinated with B.C.G.		Percentage Negative*
		No.	Percentage*	No.	Percentage†	
0-4	76	..	..	1	1.3	100.00
5-9	74	1	1.4	3	4.0	98.6
10-14	33,586	998	3.0	504	1.5	97.0
15-19	30,849	987	3.3	491	1.6	96.7
20-24	1,629	103	7.2	200	12.3	92.8
25-29	122	29	26.6	13	10.7	73.4
30-34	83	36	46.8	6	7.2	53.2
35-39	49	20	42.6	2	4.1	57.2
40-44	40	20	51.3	1	2.5	48.7
45-49	36	23	63.9	..	..	36.1
50 and over	34	16	47.1	..	..	52.9
Totals	66,578	2,233	3.4	1,221	1.8	96.6

Note 1: 66,578 persons out of 68,460 persons tested reported for reading.
Note 2: * The percentage of the number of persons tested less the number of these persons who were previously vaccinated with B.C.G.
Note 3: † This percentage related to the number tested.

The statistics for the age groups 0-9, and 30 and above are coloured by the fact that these are not a large enough cross-section from the community, and are insufficient in numbers to give a valid picture. Compared with 1967 there is a drop in the infection rate in the 10-14 group, average age thirteen years, from 4.18 to 3.0; and from 4.94 to 3.3 in the 15-19 age group, average age sixteen. This is in accord with the general pattern of decreased incidence of tuberculosis. As before, a significant number of children found to be tuberculin positive in previous years were not included in the 15-19 age group as in many cases they were already attending chest clinics. Should they be included this would increase the infection rate in the 15-19 age group.

There is a decreased conversion rate in the 20-24 age group, average age twenty from 27.9 in 1967 to 7.2 in 1968. This group is mainly composed of National Servicemen, and as before includes a large number of Queensland National Servicemen. The majority of those positive who were previously vaccinated with B.C.G. come from this latter State.

Out of a total of 1,985 tuberculin positive reactors in the 10-19 age groups not previously vaccinated with B.C.G., 873 were 15 mms or more in induration as a result of the tuberculin test. In the same age group previously B.C.G. vaccinated, 423 out of 995 demonstrated similarly large reactions.

Table X, following shows some interesting differences in the tuberculinization rates in sexes, taken only from school children and does not include people at risk.

TABLE X

Age Group	Male		Female		Co-education		Total state	
	No. tested*	Percent positive	No. tested*	Percent positive	No. tested*	Percent positive	No. tested*	Percent positive
10-14 ..	10,469	3.03	10,202	2.5	12,842	3.4	33,513	3.02
15-19 ..	11,764	3.8	9,709	2.4	9,265	3.4	30,738	3.2

* Less those showing positive reactions with previous history of B.C.G. Vaccinations.

As before, consideration of chemoprophylaxis of the recent convertor and the large reactor continues to be carried out.

VISITING NURSING SECTION

There has been an increase of 1,434 visits by the metropolitan portion of the Divisional Nursing Section from 16,576 in 1967 to 18,010 in 1968. This was related to an increase in cases requiring Streptomycin, Capreomycin and other domiciliary care. More days were spent in Clinic activities and on Tuberculin testing programmes. Due to these factors, mainly, insufficient nursing staff was available to provide necessary relief, particularly in country areas.

As is reported in the Epidemiological Surveys this work further increased from 60,567 students and others tested in 1967 to 66,578 in 1968.

As well, a follow-up on patients in receipt of the Silicosis Pension was carried out. From 671 pensioners, 265 were already attending a clinic, 145 were deceased or transferred to other States. From the remaining 261, four cases of tuberculosis were discovered on referral to a Clinic.

HOSPITAL BEDS—TABLE XI

At the end of 1968 the remaining beds at Princess Juliana Hospital were closed for tuberculosis patients. The majority of patients were transferred from there to the newly completed Villa Ward at Randwick Chest Hospital.

At Parramatta Hospital, four beds have been closed at the end of the year to enable alterations to be encompassed so as to enlarge the Out-patient facilities at the hospital.

TABLE XI—BEDS AVAILABLE YEAR ENDED 31ST DECEMBER, 1968

Institution	No. T.B. beds available	No. released for use of non-T.B. patients	Av. No. daily occupied beds during year by T.B. patients	Remarks
Royal Prince Alfred Hospital ..	37	63	18.9	Not to be used for T.B. patients after 31st December, 1968.
St Vincents Hospital	42	58	24.0	
Wollongong District Hospital ..	20	..	12.4	
Rankin Park Hospital, Newcastle ..	74	40	53.6	
Royal North Shore Hospital ..	75	25	19.0	
Princess Juliana Hospital	36	64	18.2	
St George Hospital	15	..	11.8	4 beds not erected last month of year. Space being used as consultation rooms.
Tamworth Base Hospital	21	..	12.1	
Wagga Wagga Base Hospital	11	..	6.7	
Goulburn Base Hospital	10	..	4.4	
Canterbury District Hospital	25	..	16.8	
Dubbo Base Hospital	10	..	4.9	
Grafton Base Hospital	10	..	1.2	
Parramatta District Hospital	16	..	11.2	
Lismore Base Hospital	10	..	4.6	
Manly District Hospital	15	..	5.3	
Randwick Chest Hospital	256	..	95.0	111 beds available in recently opened Villa Wards. 55 other beds erected. Other 90 beds are not at present in use.
North Ryde Psychiatric Centre ..	138	..	125.5	
Broken Hill and District Hospital ..	18	..	7.6	
Albury Base Hospital	8	15	2.5	
Picton Lake Village	9	22	7.0	
Lidcombe State Hospital	10	62	<1.0	
Totals	866	349	462.7	Beds only used in locked ward for detention of recalcitrant patients.

A further slight decrease occurred in the average number of daily occupied beds during the year, from 487.5 in 1967 to 462.7 in 1968; the hospitals showing an increase bed-day rate where there had been recent mass X-ray surveys.

During 1969 it is intended to consider further the closing of tuberculosis beds at St George, Canterbury District Memorial and Manly Hospitals in the metropolitan area and at Goulburn, Albury and Grafton in the country areas.

BACTERIOLOGICALLY POSITIVE CASES—TABLES XII, XIII, XIV, XV, XVI, XVII

There was a slight decrease in the number of persons who were reported as becoming positive during the year with typical organisms being isolated. A drop from 45 cases in 1967 to 25 cases with atypical disease in 1968 is not significant. It is expected that considerable variation will occur in notifications of atypical infections. There were again no cases of positive identification of bovine organisms. There was a further satisfactory reduction in the number of persons bacteriologically positive for 12 months or longer. Analysis of these chronic positives shows that this fall is due in part to the deaths of a number of persons known to be bacteriologically positive for several years. However the continued policy of attention to recalcitrant patients with hospitalization and treatment either voluntarily or by compulsion is beginning to pay dividends in the reduction of the number of chronic positives. In a small number of cases the use of the second line chemotherapy, particularly ethambutal, has brought about conversion of sputum.

Analysis of returns from all institutions show that more frequent testing for sensitivities to anti-tuberculous drugs is necessary, and this is particularly so in regard to chronic positives. Table XVII shows that the number of persons whose organisms were tested for sensitivity to drugs dropped from 580 to 484, although this last figure does not include tests on chronic positives who died before the end of the year.

A satisfactory reduction in the number of new cases resistant to the three main drugs, Streptomycin, P.A.S. and Isoniazid is disclosed. There is also a very marked drop in the number of persons resistant to these drugs in the previously treated group. This reflects the death of a number of chronic positives of many years standing, as mentioned before, but should probably be higher if more complete sensitivity testing of this group, who are still alive, had been carried out.

The high number of results showing resistance to viomycin was obtained from the Repatriation Department and probably reflects inadequate laboratory methods. In any case there is no report of this drug having been used more than occasionally in New South Wales for several years.

TUBERCULOSIS IN THE HEALTH DISTRICTS

Visits were made to all Health Districts during the year. Comments relating to each area will be made. Brief comments on tuberculosis control evolved from each centre are given below.

Metropolitan Health District

The incidence of tuberculosis has shown a further slight decrease. The highest incidence area per 1,000 of population in the metropolitan area was found in the City of Sydney 0.69, where mobile surveys were carried out. All other areas were below 0.40, the lowest incidence areas being Holroyd 0.09, Ku-ring-gai 0.08, Windsor 0.07, Hornsby 0.07, Mosman 0.06, Warringah 0.06 and Baulkham Hills 0.02.

TABLE XII—BACTERIOLOGICALLY POSITIVE CASES OCCURRING DURING YEAR
Excluding Atypical Disease
Year ended 31st December, 1968

Number of persons who became positive during year* excluding atypical disease						
Age group	Total number of persons who became positive during year	Number of persons hospitalized during year	Number of persons not hospitalized during year	Persons positive at end of year†		
				In hospital	Not in hospital	Total
0-4	5	5	0	0	0	0
5-9	1	1	0	0	0	0
10-14	0	0	0	0	0	0
15-19	7	7	0	0	0	0
20-24	18	18	0	3	0	3
25-29	11	9	2	1	1	2
30-34	22	20	2	2	0	2
35-39	29	28	1	7	0	7
40-44	48	45	3	7	0	7
45-49	36	35	1	7	1	8
50-54	62	59	3	14	0	14
55-59	66	63	3	12	1	13
60-64	55	55	0	8	0	8
65-69	47	46	1	7	0	7
70-74	37	34	3	3	0	3
75 and over	56	53	3	7	0	7
N/S	..	..	..	..	..	..
Total ..	500	478	22	78	3	81

* Includes notifications, reactivated cases and relapsed cases.
† A positive case is regarded as one that has not firmly converted to negative on culture.

TABLE XIII—BACTERIOLOGICALLY POSITIVE *Atypical* CASES OCCURRING DURING YEAR
Year ended 31st December, 1968

Number of persons suffering from <i>atypical</i> disease who became positive during the year*									
Age group				Total number of persons who became positive during year	Number of persons hospitalized during year	Number of persons NOT hospitalized during year	Persons positive at end of year†		
							In hospital	Not in hospital	Total
0-4	..	..	..	1	1	0	0	0	0
5-9	..	..	..	4	4	0	0	0	0
10-14	..	..	..	0	0	0	0	0	0
15-19	..	..	..	0	0	0	0	0	0
20-24	..	..	..	..	..	..	..	..	..
25-29	..	..	..	1	1	..	..	..	..
30-34	..	..	..	2	1	1	..	..	..
35-39	..	..	..	0	0	0	0	0	0
40-44	..	..	..	2	2	0	0	0	0
45-49	..	..	..	2	2	0	0	0	0
50-54	..	..	..	2	0	2	..	..	..
55-59	..	..	..	4	0	4	..	..	..
60-64	..	..	..	1	0	1	..	..	..
65-69	..	..	..	..	..	..	..	..	..
70-74	..	..	..	2	2	0	1	..	1
75 and over	..	..	..	2	2	0	1	..	1
N/S	..	..	..	2	2	0	0	..	..
Total	..	..	..	25	17	8	2	0	2

* Includes notifications, reactivated cases and relapsed cases.
† A positive case is regarded as one that has not firmly converted to negative on culture.

TABLE XIV—CASES BACTERIOLOGICALLY POSITIVE* FOR TWELVE MONTHS OR LONGER
Excluding *Atypical* Disease
Year ended 31st December, 1968

Number of persons positive* before the beginning of year and still positive* at the end of the year.

Age group					Number in hospital at end of year	Number NOT in hospital at end of year	Total number positive at end of year
0-4	..	..	..	..	0	0	0
5-9	..	..	..	..	0	0	0
10-14	..	..	..	..	0	0	0
15-19	..	..	..	..	0	0	0
20-24	..	..	..	..	0	0	0
25-29	..	..	..	..	0	0	0
30-34	..	..	..	..	0	0	0
35-39	..	..	..	..	1	0	1
40-44	..	..	..	..	3	0	3
45-49	..	..	..	..	11	9	20
50-54	..	..	..	..	2	0	2
55-59	..	..	..	..	4	7	11
60-64	..	..	..	..	4	5	9
65-69	..	..	..	..	10	5	15
70-74	..	..	..	..	6	5	11
75 and over	..	..	..	..	4	9	13
N/S	..	..	..	..	0	0	0
Total	..	..	..	..	45	40	85

* A positive case is regarded as one that has not firmly converted to negative on culture.

TABLE XV—ATYPICAL CASES BACTERIOLOGICALLY POSITIVE* FOR TWELVE MONTHS OR LONGER

Year ended 31st December, 1968

Number of ATYPICAL cases positive* before the beginning of year, still positive* at end of year

Age group	Number in hospital at end of year	Number NOT in hospital at end of year	Total number positive at end of year
0-4 .. .. .	..	..	..
5-9 .. .. .	..	..	..
10-14 .. .. .	..	..	..
15-19 .. .. .	..	..	..
20-24 .. .. .	..	..	..
25-29 .. .. .	..	..	..
30-34 .. .. .	..	1	1
35-39 .. .. .	..	..	..
40-44 .. .. .	..	..	..
45-49 .. .. .	..	1	1
50-54 .. .. .	..	..	..
55-59 .. .. .	..	..	..
60-64 .. .. .	..	1	1
65-69	0	1	1
70-74	1	3	4
75 and over	0	2	2
N/S .. .. .	..	..	..
Total	1	9	10

* A positive case is regarded as one that has not firmly converted to negative on culture.

TABLE XVI—DRUG RESISTANCE

Year ended 31st December, 1968

Number of patients resistant to—							Number of patients resistant to—					Number of patients resistant to—		
Streptomycin	PAS	INH	Strepto- mycin and PAS only*	Strepto- mycin and INH only*	PAS and INH only*	All 3 primary drugs*	Ethion- amide	Pyrazin- amide	Cyclo- serine	Vio- mycin	Etham- butol	Other drugs—please list		
Untreated Cases (No Previous Chemotherapy)														
2	4	4	0	0	1	0	0	0	5	20	1			
Previously Treated Cases														
25	27	48	1	9	13	15	6	0	2	7	0			

* Patients listed as resistant to more than one primary drug should be listed under the appropriate individual drugs as well.

NOTE: (1) Atypical mycobacterial strains are not included in this return.

(2) Previously treated cases include those becoming resistant during treatment.

TABLE XVII—BACTERIOLOGY-SENSITIVITY TESTING

Year ended 31st December, 1968

Patients (with typical organisms) on whose cultures sensitivity tests were performed.									
New cases (not including reactivated cases) ..	..	..	..	..	..	..	..	..	290
Reactivated cases .. .. .	..	..	..	..	..	..	..	..	52
Chronic cases .. .. .	..	..	..	..	..	..	..	..	57
Carry-over cases .. .. .	..	..	..	..	..	..	..	..	85
Total number of cases									484

A total of 571 new cases was discovered in the metropolitan area, 401 males and 170 females, giving an incidence of 0·22 per 1,000.

Miniature Mass Radiography Surveys were carried out by both the Tuberculosis Division and the Anti-Tuberculosis Association. From both sources a total of 318,417 persons was X-rayed. From this, 47 cases were found to be active and 23 cases are still under investigation. A total of 1,909 inactive cases of tuberculosis was detected, and 1,598 other non-tuberculous abnormalities were reported. This does not include Special Surveys, fixed units and hospital X-ray units which are reported on elsewhere.

In 1968 tuberculin testing of the school children in the metropolitan area showed an infection rate of 3·0 per cent in the 10–14 age group, and 3·3 per cent in the 15–19 age group, as compared with 4·18 and 4·94 per cent respectively in 1967. This is in accord with gradual lowering incidence of tuberculosis.

The attendance at Metropolitan Chest Clinics, was 129,797 in 1968. This apparent increase is related wholly to the inclusion of the Anti-Tuberculosis Association figures which were presented for the first time on a comparable basis. Otherwise attendances were at the same level as in 1967.

Plans are being made to build a new clinic at the Liverpool District and Hornsby District Hospitals. The former is a new venture, whereas the latter is to replace inadequate facilities at present existent.

Newcastle Health District

The incidence of tuberculosis in this district has shown an increase from 0·15 per 1,000 in 1967 to 0·25 in 1968. This is undoubtedly related to the result of the Miniature Mass X-ray Surveys reported on below. The higher incidence areas were Port Macquarie 0·66, City of Newcastle 0·45, Muswellbrook 0·44 and Merriwa 0·40.

A total of 131 new cases was notified throughout the Health District, 95 males and 36 females. Unfortunately, due to insufficient staff, and due to sickness, no tuberculin tests of school children were carried out during 1968. As yet the necessary additional tuberculosis sister has not been appointed to this area.

Miniature Mass Surveys were carried out by the Anti-Tuberculosis Association in Newcastle and adjacent areas. A total of 202,242 X-rays was carried out resulting in the discovery of 42 new active, 26 suspect active, and 1,099 inactive cases of tuberculosis. Other abnormalities found were 1,429.

The Clinic attendances increased from 13,853 in 1967 to 15,225 in 1968, and was reflected in most clinics except Cessnock where Clinics were cancelled due to the Sister being injured, and a slight drop in Port Macquarie. The new Gosford Chest Clinic was completed and should be functioning early in 1969.

North Coast Health District

During 1968 from all sources 30 new cases of tuberculosis were notified, 24 males and 6 females. No mass surveys were held in this district during the year. The total incidence per 1,000 for the Health District was 0·19 as compared with 0·35 in 1967, the highest incidence area was Copmanhurst 0·43, one case only.

There has been an increase in attendance at the clinics, rising from 3,471 in 1967 to 4,975 in 1968. No epidemiological surveys were carried out in this district during the year.

North Western Health District

During 1968 a total of 10 cases of active tuberculosis was notified, 6 males and 4 females, giving an incidence rate of 0·05 per 1,000 as compared with 0·10 in 1967. The highest incidence areas were Boolooroo 0·51, and Narrabri 0·47.

No Miniature Mass X-ray surveys were carried out in this district in 1968, nor were any epidemiological surveys.

An increase in clinic attendances occurred, from 2,877 in 1967 to 3,127 in 1968.

Western Health District

From all sources there were 46 cases of tuberculosis notified, 32 males and 14 females. This gave an incidence of 0·18 per 1,000—identical with the rate for 1967. The highest incidence areas were Brewarrina 1·60, Orange 0·59, Walgett 0·58 and Narromine 0·40.

Only 877 X-rays were taken by Miniature X-ray Survey of this Health District. No cases of tuberculosis were found. Six other conditions were reported.

Clinic attendances showed an increase from 5,511 in 1967 to 5,784 in 1968. No epidemiological tuberculin testing was carried out during the year.

South Coast Health District

During 1968 a total of 70 cases of tuberculosis was notified, 52 males and 18 females, giving an incidence of 0·21 per 1,000 as compared with 0·31 in 1967. The highest incidence areas were Wollondilly 0·52 and Gunning 0·49.

The Tuberculosis Division carried out Miniature Mass Radiography Surveys, a total of 32,285 people was X-rayed. Three cases of active, 3 suspect active and 82 cases of inactive tuberculosis were discovered. Eleven cases are still under investigation. Other abnormalities totalled 354.

Clinic attendances showed an increase from 15,273 in 1967 to 16,353 in 1968. No tuberculin surveys were carried out.

Riverina Health District

Forty new cases of tuberculosis were notified during the year, 30 males and 10 females, resulting in an increase in incidence from 0.08 per 1,000 in 1967 to 0.16 per 1,000 in 1968. The highest incidence areas were Balranald 1.03 (three cases), Murrumbidgee 1.02 (two cases), Deniliquin 0.62 (four cases), Wade 0.49 (nine cases), Hay 0.48 (two cases), and Jerilderie 0.41 (one case).

Miniature Mass X-ray surveys were carried out by the Tuberculosis Division, 73,944 persons were X-rayed. From this 18 new active, 6 suspect and 209 inactive cases of tuberculosis were found. Twenty-six cases are still under investigation. Other abnormalities totalled 720. Overall clinic attendances showed an increase during 1968, from 3,173 in 1967 to 4,663 in 1968. This undoubtedly resulted from the re-organization of this area which occurred in 1967. No tuberculin surveys were conducted.

Broken Hill Health District

During 1968, 12 cases of tuberculosis were notified, 10 males and 2 females, giving an incidence of 0.40 per 1,000 as compared with 0.26 in 1967.

This increase was related to the miniature mass X-ray survey carried out by the Tuberculosis Division. A total of 21,820 was X-rayed resulting in the discovery of 6 cases of active and 64 cases of inactive tuberculosis. Other abnormalities amounted to 222.

The chest clinic operated for the full year for the first time, the clinic attendances rose from 611 in 1967 to 1,107 in 1968.

TUBERCULOSIS IN THE MINING INDUSTRY

The notification of tuberculosis from workers in the Coal mining industry and the mines at Broken Hill are shown below. Although these was a compulsory implemented survey in the Broken Hill District during 1968 only two miners were found to have tuberculosis.

The Joint Coal Board's compulsory withdrawal scheme continues to function satisfactorily.

Year	Joint Coal Board	Bureau of Medical Inspection (Broken Hill)
1956	5	.. } Not
1957	9	.. } available
1958	8	.. }
1959	8	9
1960	2	4
1961	3	3
1962	3	5
1963	4	2
1964	7	2
1965	5	1
1966	2	1
1967	3	..
1968 .. .. .	..	2

NINETEENTH NATIONAL TUBERCULOSIS ADVISORY COUNCIL

Amongst many matters discussed at the above meeting the following recommendations for action were received in this State. In each case action has or is being taken.

Interpretation of Chest Radiographs. Council modified its 1967 resolution on miniature films as follows: The 19th Council resolved that for mass survey work or where large numbers of films were involved there should always be dual separate readings of miniature films. Each reader should be unaware of the other's findings.

Protection of Nursing and Hospital Staff

- (a) B.C.G.: Council recommends that all nursing and other staff in contact with patients should be kept fully protected with B.C.G. Annual tuberculin tests of vaccinated staff should be carried out and those who have reverted to negative should be re-vaccinated. This procedure is recommended in all hospitals and not only those treating tuberculosis.
- (b) X-rays: Council recommends that with the present incidence of the disease, nurses and other staff members in tuberculosis hospitals and wards should be X-rayed annually. Staff in hospitals not treating tuberculosis should be X-rayed on commencement and cessation of employment as a minimum. More frequent X-rays may be required under special circumstances.

Protection of Staff in Pathological Laboratories. Council resolved that the safety measures listed in the Department of Health document on Bacteriological Investigations for Mycobacteria should be universally approved in laboratories investigating tuberculosis.

Drugs Used in Institutions. Council recommends that a full range of preparations of effective anti-tuberculosis chemotherapeutic drugs should be available to all recognized institutions treating tuberculosis. Whilst entirely in favour of reasonable economies it deprecates the false economy of treating any patient with preparations, although cheaper, which are less likely to give adequate blood levels or more likely to give side effects and to be unacceptable to the patient.

Recalcitrant Patients. Council resolved that a recommendation made by the ninth session should be reaffirmed. The ninth session of Council recommended that in those States where adequate facilities did not exist for the compulsory segregation of recalcitrant infectious cases that steps should be taken to establish such facilities.

Radiation—Compulsory X-ray Examinations. Council reviewed the Compulsory Mass Chest X-ray policy and having noted that—

Much of the success of the Australian campaign against tuberculosis was due to mass X-ray surveys.

There were still substantial public health benefits in the yield of tuberculosis cases—both immediate and delayed—discovered by mass X-rays (apart from many other conditions discovered).

Recent figures showed a considerably higher yield (up to 8 times) in those initially reluctant to come forward for X-ray.

Council recommends that—

Surveys should continue whilst public health benefits accrue.

Surveys should be directed to areas of higher incidence and that the general frequency of surveys should decline as yields fall.

Council also noted that its recommendations on frequency were already in operation in the States and reaffirmed these recommendations. Council reaffirmed its support for the N.R.A.C. recommendations of November, 1965, relative to chest X-rays and mass surveys which state—

Technical developments that would enable the dose of X-radiation used in mass miniature surveys to be reduced still further should be applied as promptly as circumstances permit.

The frequency of surveys in each community should be reduced and the minimum age of persons subjected to them should be raised as when warranted by decline in the indicated incidence of the disease within that community.

Unless special circumstances relating to high incidence require the mass radiological examination of adolescents in a particular locality no person under the age of 21 years should be included in a compulsory survey.

Diagnostic procedures other than radiological examination should be used when this can be done effectively; for example, use of the tuberculin test in children in appropriate circumstances.

With all these considerations in mind and having regard to the continued importance of tuberculosis as a public health problem, the N.R.A.C. reaffirms its full support of the policies of Commonwealth and State tuberculosis-control authorities for the use of mass miniature X-ray surveys in a form that best meets the requirements of public health, even if this entails compulsory examination.

In certain of the above special comments should be made. These are as follows:

Drugs Used in Institutions. Some difficulties have arisen in Public Hospitals where Chest Clinics are attached in this State with the supply of the full range of anti-tuberculous drugs.

The most common instance of this is the prescribing of P.A.S. The percentage of persons suffering from gastro-intestinal symptoms while taking this drug is high and these symptoms can often be minimized if special preparations such as the coated granular forms are used. These are significantly more expensive than the tablet form. Where symptoms of intolerance are a problem it is poor economy if the cheapest preparations of the drug are prescribed as the patient usually will not take these drugs. This can result in inadequate treatment, relapses and reactivation with possible further costs for hospitalization in the future.

Complaints have been made by Drug Committees in some Public Hospitals not understanding the problems involved where persons cannot tolerate to cheaper preparations.

As far as possible all clinics shall be instructed to use the cheapest form of this drug at the commencement of treatment and only to use other preparations where symptoms of intolerance arise. This problem would not be raised in Public Hospitals if hospitals were fully reimbursed for the cost of investigation for the treatment of tuberculosis cases. At present a proportion of these expenses is received by the hospitals and subsidies paid to hospitals by the Hospitals Commission, it is considered that all clinics and hospitals should be advised that all patients should be given the most suitable drugs necessary for their treatment.

Recalcitrant Patients. At present, where necessary, recalcitrant patients are housed in the Lidcombe State Hospital and this system works satisfactorily as far as New South Wales is concerned. Accommodation such as this will be needed for up to three persons at any one time for this type of patient. Therefore, New South Wales complies with the recommendations as suggested by the Council in this regard.

Approaches are being made to transfer the Recalcitrant lock-up from Lidcombe to Randwick Chest Hospital.

Radiation—Compulsory X-ray Examinations. The present practice of planning compulsory X-ray surveys in New South Wales is in line with principles enunciated by the National Radiation Advisory Council. The intervals between surveys in all areas are being slowly lengthened as yields fall and this policy will continue until all areas of the State are surveyed at approximately 5-year intervals.

The safety measures as recommended by the N.R.A.C. are carried out in this State in the follow-up of compulsory surveys. A number of persons have been found to have objections to being X-rayed because of fear of radiation as well as requests for exemption by radiation workers. These persons are offered the alternative of Mantoux skin tests, which if negative is acceptable and if positive consideration is given in each case as to whether an X-ray should be asked for.

CONCLUSION

The general impression gained from the tuberculosis statistics for 1968 is that a further reduction in the mortality and morbidity rates has occurred. This is especially shown by a study of the epidemiological tuberculin testing positivity rate. The increase in notifications by general practitioners and the decrease in notifications by death certificate is indicative of an increasing awareness and co-operation by members of the medical profession.

One most important aspect which requires special attention is the necessity for complete sensitivity testing of patients with positive cultures, particularly with the chronic positive patients.

With the mortality and morbidity tuberculosis rates continuing to decrease, emphasis needs to be placed on the education of the public, the patient and his relatives. In these days the education of the non-tuberculous is just as important as the tuberculous.

In conclusion this opportunity is taken to thank the Senior Officers of the Department of Public Health, The Commonwealth Health Department, the Hospitals Commission, the staff of the Division of Tuberculosis, the Anti-Tuberculosis Association, and other intra and extra-departmental personnel and organizations for the ready assistance given and whole-hearted co-operation received at all times.

IMMUNIZATION CENTRE

POLIOMYELITIS

Medical Officer-in-Charge: J. R. B. BEAUMONT, B.Sc., M.B., B.S., D.A., F.F.A.R.A.C.S.

Location: Potter House, 15 Phillip Street, Sydney

Function

This section undertakes the distribution of poliomyelitis vaccine in New South Wales, to local health authorities in the metropolitan area, and to Medical Officers of Health in the country Health Districts.

It also conducts a Poliomyelitis Immunization Centre at 15 Phillip Street, Sydney.

Staff

One clerk.

Incidence of Poliomyelitis

There were no notifications of poliomyelitis for the year ended 31st December, 1968. This completes a 3-year period during which no cases of poliomyelitis have occurred in New South Wales.

The following table shows the poliomyelitis situation in New South Wales over the past four years:

<i>Year</i>	<i>Cases</i>	<i>Deaths</i>
1965	3	..
1966	..	..
1967	..	..
1968	..	..

POLIOMYELITIS VACCINATION CAMPAIGN

Sabin Vaccination

Mass vaccination with Sabin poliomyelitis vaccine has continued throughout the year.

Quantities of poliomyelitis vaccine distributed from the Immunization Centre to authorities administering the vaccine during the past four years were:

Administering Authority	1965	1966	1967		1968
	Salk	Salk	Salk	Sabin	Sabin
Medical Officers of Health and Metropolitan Councils.	Doses 415,643	Doses 428,594	Doses 102,408	Doses 4,804,560	Doses 1,130,880
Immunization Centre	4,130	2,876	485	7,140	8,300
Total	419,773	431,470	102,893	4,811,700	1,139,180

Total Sabin Issues (1st May, 1967, to 31st December, 1968) 5,950,880.

Returns of vaccines received at the Immunization Centre from the various authorities showing the number of doses administered during 1968 were as follows:

Period	Number of doses				
	First dose	Second dose	Third dose	Booster	Total
1-1-68 to 31-12-68	276,440	349,525	412,535	15,968	1,054,468
1-5-67 to 31-12-68	1,489,095	1,239,504	1,093,608	..	3,822,207
	1,765,535	1,589,029	1,506,143	15,968	4,876,675

Wastage factor. From the inception of the Campaign on 1st May, 1967, to 31st December, 1968, the total number of doses issued was 5,950,880 and the total number of doses administered 4,876,675, giving a wastage of 18 per cent, which is not considered excessive in a campaign of this magnitude.

Acceptance of vaccine. The percentage of the total population who have been vaccinated in the various age groups is:

Percentage of Total Population Vaccinated			
Age	First dose	Second dose	Third dose
	Per cent	Per cent	Per cent
0-4	93·51	80·81	72·05
5-19	84·02	77·81	77·23
20-39	30·82	27·18	23·92

PUBLIC HEALTH SERVICES

Health Inspection Branch

Chief Health Inspector: H. K. EVANS

Location: 15 Phillip Street, Sydney

STAFF AS AT 31st DECEMBER, 1968

Establishment at Head Office comprised: One Deputy Chief Health Inspector; four Senior Health Inspectors; sixteen Health Inspectors (two positions vacant and one on secondment); three Trainee Health Inspectors (two positions vacant); two Registered Surveyors; one Senior and one Junior Tracer (female); two female Office Assistants; one Attendant to assist Surveyors; one Records Clerk.

Six Senior Health Inspectors and fourteen Health Inspectors were detached for duty in the various Health Districts.

Staff Changes

There were three appointments (two Office Assistants and one Cadet Health Inspector). One promotion of a Cadet Health Inspector to a Health Inspector. There were five staff changes involving transfers; four within the Branch, all Health Inspectors, and a transfer out of the Branch to another Government Department, one Office Assistant. One Health Inspector remained on secondment to the Department of Public Works. Five resignations included two Health Inspectors, one Cadet Health Inspector, and two female Office Assistants.

GENERAL

During the year many aspects of public health inspection work came under review. Many complaints were received and dealt with either by referral to the local authority for the area or by departmental investigation. Most of the latter type of complaint concerned matters which the complainant felt had not been effectively dealt with by council. A considerable number of such complaints concerned drainage nuisance and indicated the need for additional supervision of drainage installations.

Regular inspections were made of established nightsoil and garbage depots in the metropolitan area. The main defects related to offensive odours, rat infestation, deposition of garbage into water and mosquito breeding in garbage cells. The practice of establishing "hard fill" tips for the disposal of house refuse has given rise to many problems. The attitude of some councils has been that such tips do not require close supervision. Consequently, many tips have been established without adequate planning and without the knowledge of this Department. In some instances this has resulted in serious public health problems which could have been prevented by consultation and advice from the Department.

River and bay pollution surveys were continued and where sources of industrial or domestic pollution were detected the necessary remedial action was instituted. Assistance provided to councils resulted in the closure of three harbourside swimming pools in the Parramatta River. Following the death of large numbers of eels in this river a considerable reduction in pollution was effected, particularly in respect of chemical and industrial sludge pollution. The disposal of household and trade waste was found to be creating gross pollution of the lower George's River.

Regular inspections of swimming pools were carried out during the summer months. In general these departmental inspections were welcomed by the public swimming pool operators who were receptive of suggestions towards improvement from a public health standpoint. A survey made of closed circuit swimming pools located at institutions and schools assisted in determining the general maintenance requirements of diatomaceous skim-filters and revealed that this type of filtration system had disadvantages for certain pools with heavy bathing loads.

Sanitary surveys designed to establish the general standard of environmental sanitation were carried out in the Municipality of Blacktown and the Shire of Warringah. Following remedial recommendations forwarded to the councils concerned improvement has been effected. Two additional health inspectors and one trainee health inspector have since been appointed by Warringah Shire Council.

Thirty-seven applications for design approval of septic tanks were dealt with through the year on a comprehensive catalogue of all plans meeting the Department's requirements. A list of manufacturers of septic tanks was prepared and copies distributed to all health districts.

NOXIOUS TRADES

Some trades controlled under the Noxious Trades Act 1902, are not offensive and because of current trends, the need for revision of the Act and Regulations became apparent. It is proposed to alter the title of this Act and to incorporate within its provisions legislation to control the preparation, storage, sale and inspection of pet meat; also to amend the Regulations in line with modern processing techniques.

Under the existing form of planning scheme ordinances “offensive or hazardous” industries include trades controlled under the Noxious Trades Act. As a result trades of a non-offensive nature were hampered by the application of zoning restrictions. Accordingly, representations were made to the State Planning Authority to alter its definition of “offensive and hazardous” industries.

Surveys were made of tanners, leather merchants and soap makers in the metropolitan area to determine the position regarding unlicensed operators. Appropriate action towards licensing was taken where necessary.

SURVEY SECTION

During the year 387 surveys and 246 inspections of allotments of land notified under section 55 of the Public Health Act, 1902, as amended, were carried out.

Applications for Search Certificates received numbered 94,425, an increase of 11,242 from the previous year.

Further surveys were undertaken in regard to the notification of Unhealthy Building Land. Three new areas were notified, notices on 9 areas were revoked and in respect of 5 areas, notices were partially revoked.

NEW DEVELOPMENTS

A draft code designed to assist councils to regulate the control and conduct of caravan parks and camping areas was prepared. Owing to the trend towards the greater utilization of this type of facility, some guidance as to the minimum requirements appeared necessary. Copies of the draft code have been forwarded to governmental and other interested bodies for their comment before publication of the code.

Following representations by various Ministers, a detailed report was prepared on the position regarding the use of Mobile Homes. At this stage it was considered that insertion of a section dealing with mobile home “parks” in the proposed code for camping areas and caravan parks was inappropriate in view of the wide issues involved.

Disposal of liquid trade wastes and industrial sludges is becoming a rapidly increasing problem as the Metropolitan Water Sewerage and Drainage Board and most councils are not prepared to accept this type of waste into its sewers or garbage depots. Privately operated tips were being used some of which created a serious hazard prior to departmental intervention. A very real problem exists as suitable sites capable of handling large quantities of these liquid wastes are very difficult to obtain in the metropolitan area.

The increased popularity of caravans, industrial trailers and boats resulted in several applications being received for approval of lightweight chemical closets. These units were subject to field testing with varying results and no such appliances reached the required standards.

After considerable investigation an approval on a trial basis was granted to Blacktown Municipal Council to use sewage treatment works effluent for spray irrigation of playing fields at Quakers Hill. The approval was granted subject to the effluent undergoing satisfactory tertiary treatment, and other suitable safeguards. As the treatment works are nearing completion it is anticipated that the scheme will soon be implemented.

SPECIAL INVESTIGATIONS

A survey into the need to control the use of hard or foaming detergents was carried out. Investigation revealed that whilst “soft” or biodegradable detergents have been produced here, most of the commercial detergents available are of the “hard” or non-biodegradable type. The continued use of such detergents could well lead to an undesirable concentration in some streams and rivers. Prohibition of manufacture, importation or sale of hard detergents would be one solution. However, this has wide implications which at this stage have not been fully assessed. Accordingly it has been considered advisable to await the recommendations of a committee set up by the National Health and Medical Research Council before formulating control measures.

The use of poison baits impregnated with sodium fluoroacetate, commonly known as 1080 poison for rabbit control, in the immediate vicinity of water storage dams necessitated an investigation into this practice. As a result a comprehensive report was prepared and appropriate advice forwarded to the Medical Officers of Health, country health districts.

A number of cases of lead poisoning were investigated throughout the year. In all cases the paintwork of the dwellings occupied by the patient was found to be in a deteriorated condition. Sampling of this paintwork generally showed a high lead content. Consideration may have to be given to some form of control over the manufacture of lead based paints.

Problems associated with the disposal of dangerous substances also came under notice. One case involved a considerable quantity of strychnine brucine which was buried under supervision of an officer of the branch.

TABLE I—WORK PERFORMED BY HEALTH INSPECTORS IN METROPOLITAN AREA

	1967	1968
Local Government areas surveyed .. .. .	..	2
Inspection of Buildings, shops, warehouses, Produce stores, etc.	8	85
Hospitals, Institutions and Schools inspected	61	72
Aborigine Reserves inspected .. .. .	..	1
Inspection of Hotels, Motels, Boarding Houses, and Lodging Houses	6	12
Theatres and Public Halls inspected	2	7
Ventilation Tests and Odour control investigations .. .. .	..	12
Barber Shops and Hairdressing Salons inspected	107	77
Inspection of Dilapidated and Insanitary Buildings .. .. .	..	19
Noxious Trades premises inspection	1,052	1,478
Dead Wool Processing and Hide and Skin Stores Inspected .. .. .	..	24
Bedding and Upholstering Premises Inspected and Samples Collected	38	41
Second Hand Clothing Shops inspected .. .. .	..	29
Carpet and Underfelt Manufacturers inspected .. .. .	..	16
Abattoirs—drainage treatment and disposal investigations	23	18
Dairies, Pig and Poultry Farms inspected	101	112
Pet Foods Shops inspected	51	30
Public Swimming Pools inspection and testing	189	241
Show Grounds, Cattle Sale Yards, Cemeteries, Crematories, Camping Grounds and Caravan Parks inspections	12	56
Nuisances investigated	1,438	1,854
River, Bay and Beach Pollution investigation	139	174
NIGHTSOIL AND GARBAGE		
Scavenging Districts assessed	2	6
Sanitary Depots, Existing and Proposed—site inspections	456	553
Water Supplies, Public and Private investigated	4	11
Sewerage Treatment Works, Existing and Proposed—site inspection	68	70
SEPTIC TANKS		
Number of Sites recommended for approval	6,712	8,890
Number of Sites refused	1,003	1,034
Bores inspected	1	12
Bores tested .. .. .	..	1
New plans examined for approval	55	64
Manufacturers' Premises inspected	78	82
Existing Septic Tanks	180	297
Applications Received	7,787	8,178
INVESTIGATIONS OF INFECTIOUS DISEASES AND CHEMICAL POISONING		
Number of cases investigated	13	11
EXAMINATION OF PROPOSALS SUBMITTED		
Planning Schemes .. .. .	..	13
Plans of Swimming Pools and Treatment Plants .. .. .	..	4
Package Sewage Treatment Works .. .. .	..	2
Sampling of Water, Effluents, Trade Wastes etc.	236	259
Sampling of Other Material	13	23
Sampling of Swimming Pool Water	90	110
Special Investigations .. .. .	..	41
Consultations with Engineers and Architects and Councils	110	215
LEGISLATION		
Preparation of Draft Amendments to Acts and Regulations .. .. .	..	2
Examination of Draft Legislation Submitted by Department of Local Government .. .. .	..	1
HEALTH EDUCATION		
Brochures and Pamphlets Prepared .. .. .	..	1
Brochures and Pamphlets Published .. .. .	..	1
INTRAINING AND D.P.H. TRAINING		
Courses Conducted (Sessions) .. .. .	..	44
LEGAL PROCEEDINGS		
Departmental	5	8
Appearances for Councils	3	2
Unhealthy Building Land Inspections	103	246
Unhealthy Building Land Surveys	334	387
Land Enquiries	83,183	94,425
Areas Revoked and Partially Revoked	26	14
Areas of Land Notified	8	3

STAFF TRAINING

The training of cadets and inexperienced staff in departmental procedures was increased during the year. The co-ordination of the all round training was carried out by the Training Officer, whilst field training of these officers was carried out by the Senior Inspectors and staff. The Training Officer attended a course "Initial Methods of Instruction" arranged by the Public Service Board.

A training programme of weekly, two-hour lectures was implemented from May to December. Subjects dealt with included, guiding principles, health education, departmental procedures, relations with local authorities, report writing, plumbing and draining, septic tanks, sanitary depots, nightsoil

and garbage collection and disposal, sanitary surveys, fibreglass septic tanks, insanitary buildings, water sampling and interpretation of analyses, sewage treatment, unhealthy building land, noxious trades, barbers shops, inspections of institutions, sullage disposal, nuisances, hard detergents, water supplies, and stream pollution surveys.

Health Inspectors were divided into two groups, Group 1 being relatively inexperienced, attended all lectures, and members of Group 2 attended selected lectures. These courses of instruction appear to be serving the purpose intended and will be continued.

COMMITTEE AND CONFERENCES

The Chief Health Inspector or his deputy was engaged on a number of Committees which included: The Australian Standards Association; A Committee dealing with incinerators in multi-storeyed buildings; The Examining Committee for Licences for Fumigators using dangerous substances; A Committee revising the Theatres and Public Halls Act for the Chief Secretary's Department; The Standing Technical Committee on Septic Tanks; The Hunter River Pollution Control Committee and a Committee set up by the Department of Local Government in connection with sullage disposal problems.

A three-day residential conference at Little Bay was attended by the Chief Health Inspector. A two-day conference for Senior Health Inspectors was held in Head Office and included a combined conference of Senior Health, Food and Nursing Inspectors of the Department. Topics discussed included public relations, management principles, contributions of Health, Food and Nurse Inspectors to total care and techniques for investigation of lighting in school classrooms.

Food Inspection Branch

Location: 58 Bridge Street, Sydney

STAFF

Chief Inspector: W. J. MADGWICK

Deputy Chief Inspector: J. W. WING

Six Senior Food Inspectors; Seventeen Food Inspectors; One Office Assistant.

Note (1): Of the six Senior Food Inspectors referred to above, one is detached for duty at each of the following Health Districts: North Coast, South Coast, North Western, Western, Newcastle and Riverina and one Food Inspector is detached for duty at each of the Health Districts of the North Coast, South Coast, Western and Newcastle.

Note (2): This report does not include the work carried out in the aforementioned Health Districts.

ACTIVITIES

The work of the branch is primarily concerned with the supervision of the sale of food and drugs in regard to their composition, identity and labelling, the structure and condition of premises in which they are manufactured, prepared, stored and sold; the inspection of the equipment, appliances and vehicles used; the incidental duties associated with matters to secure the wholesomeness; cleanliness and freedom from contamination of food and drugs; and the implementation of the legal provisions required by the Pure Food Act, 1908, as amended.

FOOD SAMPLING

A total number of 5,740 samples comprising a wide variety of foods were obtained and submitted for analysis by the Inspectors of the Branch. Of these 473 were found to be adulterated. Successful legal proceedings were instituted in 359 cases, resulting in the imposition of \$10,774.50 in fines and costs. A further 114 departmental warning letters were sent to traders who were found to be selling adulterated food. Whilst most of the adulterated food proceedings instituted were for meat and smallgoods, prosecutions also included those for the sale of adulterated butter, adulterated cream, adulterated milk, adulterated pastry and adulterated spirits.

BACTERIOLOGICAL EXAMINATION OF FOODS

A regular programme of sampling oysters from the Hawkesbury and George's River areas to determine whether oysters grown in these waters are polluted is continuing. During the year, Salmonella organisms were recovered from 4 samples and subsequent inspection of the area in which these oysters were grown revealed that high tides were entering and leaking out objectionable pollution from a tip on the edge of a creek discharging into a bay from which the oysters were obtained.

The tip was closed and dammed with a sand barrier. Salmonella organisms have not since been detected in oysters from that area.

Other foods submitted for bacteriological examination included frankfurts, fish-fingers and desiccated coconut. Salmonella or pathogens were not found in any of these foods.

SEIZURES

A total of over 189 tons of food was seized and destroyed, being unfit for human consumption. Additionally 10,753 head of poultry sent forward for sale in the Poultry Markets were destroyed as being considered unfit for human consumption following ante-mortem inspection by the Board's Inspectors.

PREMISES

Of 9,377 premises inspected in which food was prepared, stored or sold, 934 required remedial action in the way of structural repairs or other defects. Notices to remedy such defects were served in these cases and 30 other traders were convicted and fined a total of \$1,511.00 for failing to keep their food premises clean.

GENERAL BREACHES

Of a total of 148 traders who were convicted and fined, \$3,147.00, 12 were fined for failing to keep food premises free from cockroaches, 78 for smoking whilst preparing food, 20 for foods being exposed to likely contamination on shop counters and 18 breadcarters for failing to cover bread baskets during bread deliveries. Five persons were fined for using saliva from the mouth prior to marking meat with a marking pencil and one trader was fined for storing horse meat in a cafe.

COMPLAINTS

A near record number of 1,422 complaints made by members of the public concerning food matters, is an indication that people are aware of the Branch's activities and of the action taken by its officers.

LEGAL PROCEEDINGS

The total number of prosecutions instituted by the Branch was 538 and fines and costs amounting to \$15,534.50 were imposed.

INSPECTION OF DEPARTMENTAL HOSPITALS, CHILD WELFARE AND PRISON ESTABLISHMENTS

Advice on food matters was given by means of inspections and reports by the Branch Inspectors to 37 Departmental Hospitals, Child Welfare and Prison Department Establishments.

PUBLIC RELATIONS

The Chief Food Inspector addressed 20 health, food industry and service organizations, appeared on ABC Television and contributed 2 articles to food industry journals.

Feature articles and some of the branch's prosecutions were also published in the daily press.

AMENDMENTS TO REGULATIONS

Amendments to Regulations under the Pure Food Act were gazetted during the year for:

- Bitters.
- Tonic and quinine drinks.
- Raw milk.
- Pasteurized milk.
- Special pasteurized milk.
- Homogenized milk.
- Prescribed analytical tests for milk.

COMMITTEES AND STAFF CONFERENCES

The Chief Food Inspector is a member of the following committees which held meetings during the year and which he attended:

- Food Standards Committee of National Health and Medical Research Council.
- Baking Trades Advisory Committee.
- N.S.W. Health Week Council.
- Pure Food Advisory Committee (Advisory Member).

The Chief Food Inspector held a Staff Conference with Senior Food Inspectors in Sydney and made visits to Riverina Health District and North Coast Health District.

TABLE I—SUMMARY OF WORK PERFORMED BY PURE FOOD BRANCH (CENTRAL ADMINISTRATION)
FOR THE YEAR ENDING 31ST DECEMBER, 1968

<i>Food</i>									
other than milk									
Number of samples taken .. .. .	..	..	..	..	..	..	..	..	3,655
Number below standard .. .. .	..	..	..	..	..	..	..	..	448
Number of warnings .. .. .	..	..	..	..	..	..	..	..	105
Number of prosecutions .. .. .	..	..	..	..	..	..	..	..	343
Amount of fines and costs .. .. .	..	..	..	..	..	..	..	..	\$10,464.50
<i>Milk</i>									
Number of samples taken .. .. .	..	..	..	..	..	..	..	..	2,085
Number below standard .. .. .	..	..	..	..	..	..	..	..	25
Number of warnings .. .. .	..	..	..	..	..	..	..	..	9
Number of prosecutions .. .. .	..	..	..	..	..	..	..	..	16
Amount of fines and costs .. .. .	..	..	..	..	..	..	..	..	\$310.00
<i>Samples field tested</i>									
Meat (fresh) 9,455. Spirits 2,614 .. .. .	..	..	..	..	..	..	..	Total	12,069
<i>Food Unfit for Human Consumption, Seized and Destroyed</i>									
The seizures and destructions comprised over 189 tons, 5,026 cartons, 1,677 bottles and 10,753 head of poultry.									
<i>Inspection of Premises Used for the Preparation, Sale and Storage of Food and Drugs</i>									
Number of inspections .. .. .	..	..	..	..	..	..	..	..	9,377
Number of warnings .. .. .	..	..	..	..	..	..	..	..	934
Number of prosecutions for unclean premises .. .. .	..	..	..	..	..	..	..	..	30
Amount of fines and costs .. .. .	..	..	..	..	..	..	..	..	\$1,511.00
<i>Particulars of General Breaches of the Pure Food Act and Regulations</i>									
Number of prosecutions .. .. .	..	..	..	..	..	..	..	..	148
Amount of fines and costs .. .. .	..	..	..	..	..	..	..	..	\$3,147.00
<i>Action Taken Under Other Acts</i>									
Number of prosecutions .. .. .	..	..	..	..	..	..	..	..	1
Amount of fines and costs .. .. .	..	..	..	..	..	..	..	..	\$102.00
<i>Other Matters</i>									
Number of complaints investigated .. .. .	..	..	..	..	..	..	..	..	1,422
Inspection of Government Institutions and Departmental Hospitals .. .. .	..	..	..	..	..	..	..	..	37

TABLE II—SUMMARY OF LEGAL PROCEEDINGS, 1968

Offences under the Pure Food Act and Regulations									Number of prosecutions	Amount of fines and costs
										\$
Adulterated food	..	..	..	..	..	..	..	..	343	10,464.50
Adulterated milk	..	..	..	..	..	..	..	..	16	310.00
Unclean premises	..	..	..	..	..	..	..	..	30	1,511.00
General breaches	..	..	..	..	..	..	..	..	148	3,147.00
<i>Other Acts</i>										
Local Government Act (Ord. 39)	..	..	..	..	..	..	..	..	1	102.00
Totals									538	\$15,534.50

TABLE III—SUMMARY OF WORK CARRIED OUT BY THE PURE FOOD BRANCH (CENTRAL ADMINISTRATION) UNDER THE PURE FOOD ACT, FROM THE DATE OF ITS OPERATION, OCTOBER, 1909, TO 31ST DECEMBER, 1968

			No. of Premises inspected	Total No. Samples taken	Total below standard	Prosecutions	Amount of fines and costs
							\$
Premises inspected	..	..	554,197	....	....	3,343	52,950.00
Breaches of act and regulations	..	..	....	....	....	6,702	80,088.50
Milk samples	..	..	....	414,536	13,780	9,039	95,140.40
Food and drug samples	..	..	....	285,436	25,156	18,622	231,785.30
Food and drug seizures	..	..	....	....	....	435	4,090.00
Totals	..	..	554,197	699,972	38,936	38,141	464,054.20

FOOD AND DRUG SAMPLES

Particulars of Samples of Food and Drugs taken for analysis by Officers of the Food Branch during 1968

Samples	No. of Samples	No. of warnings	No. of Prosecutions	Fines and costs
				\$
Ales and beer	54	2	....	....
Bacteriological	26	....	....	....
Bread	7	....	....	....
Butter	38	....	14	218.50
Cereals and flour	5	....	1	62.00
Cheese	13	....	....	....
Coffee	13	1	....	....
Condiments and spices	28	2	....	....
Confectionery	5	....	....	....
Cordials and soft drinks	131	....	....	....
Cream and cream mixture	129	5	1	2.00
Disinfectant	1	....	....	....
Fish	33	....	....	....
Fruit (fresh and preserved)	11	....	....	....
General—Miscellaneous	22	....	....	....
Ice cream and ice	28	1	....	....
Jam and fillings	9	....	....	....
Margarine	3	....	....	....
Meat and manufactured meat	3,010	94	322	9,902.00
Meat (malachite tested—9,455) .. .. .	....	....	....	....
Meat (canned)	43	....	....	....
Meat paste and spread	26	....	....	....
Milk	2,085	9	16	310.00
Oil	4	....	....	....
Pastry	2	....	2	194.00
Spirits	3	....	3	86.00
Spirits (tested—2,614) .. .. .	....	....	....	....
Wine	11	....	....	....
Foreign matter in Food (identification of 11) .. .. .	....	....	....	....
Totals	5,740	114	359	10,774.50

SEIZURES

Particulars of Foods and Drugs seized as Unfit for Human Consumption and destroyed during 1968

Food	Tons	Cwt	Qtrs	Lbs	Other amounts
Biscuits .. .. .	..	..	..	..	4,968 cartons
Confectionery .. .. .	..	..	..	..	24 cartons
Cheese	61	15	3	..	34 cartons
Coffee beans .. .. .	..	16	..	..	725 bottles
Condiments	2	..	..	..	504 bottles
Cordials .. .. .	..	..	..	..
Fish (fresh)	10	7	..	..
Fish (canned)	82	..	..	..
Flour .. .. .	..	1	2	..	
Fruit, dried	2	16	1	12	
Fruit, fresh	14	..	..	..
Groceries, assorted	3	..	..	..
Macaroni .. .. .	..	3	..	..
Nuts	6	4	2	..	
Poultry .. .. .	..	11	..	..	10,753 head
Spice (Paprika)	2	..	..	..
Spirits .. .. .	..	..	..	..	448 bottles
Tea	3	12	1	21	
Vegetables, frozen .. .. .	..	..	2	..	
Total	189	8	..	5	5, 026 cartons 1,677 bottles 10,753 head

Particulars of Inspections by Officers of the Pure Food Branch during 1968

District						No. of Inspections	No. of Warning Notices	No. of Prosecutions	Fines and costs
									\$
METROPOLITAN—									
Ashfield						250	14	1	17.00
Auburn						335	13	2	144.00
Bankstown						459	41	1	82.00
Baulkham Hills						145	7	....	....
Blacktown						300	37	1	27.00
Botany						108	9	....	....
Burwood						257	20	1	27.00
Campbelltown						20	....	....	....
Canterbury						377	54	....	....
Concord						69	7	....	....
Drummoyne						102	14	1	12.00
Fairfield						172	13	3	186.00
Holroyd						219	11	3	159.00
Hornsby						280	33	....	....
Hunters Hill						85	9	....	....
Hurstville						199	32	....	....
Kogarah						112	16	1	27.00
Ku-ring-gai						130	1	....	....
Lane Cove						76	9	....	....
Leichhardt						273	17	1	32.00
Liverpool						115	13	....	....
Manly						93	48	....	....
Marrickville						316	50	4	158.00
Mosman						74	1	....	....
North Sydney						345	46	1	102.00
Parramatta						432	53	1	42.00
Penrith						177	36	1	82.00
Randwick						325	41	....	....
Richmond						8	....	....	....
Rockdale						185	10	1	32.00
Ryde						305	40	....	....
South Sydney						33	....	....	....
Strathfield						117	6	....	....
Sutherland						320	69	1	40.00
Sydney						1,713	58	4	178.00
Warringah						172	24	....	....
Waverley						213	19	....	....
Willoughby						238	38	1	102.00
Windsor						33	....	....	....
Woollahra						162	3	....	....
COUNTRY—									
Broken Hill						33	22	1	62.00
Total						9,377	934	30	\$1,511.00

Particulars of General Breaches of the Pure Food Act and Regulations undertaken during 1968

Offence	Number of Prosecutions	Fines and Costs
		\$
Smoking in food premises	78	1,315.00
Unlabelled oysters	2	49.00
Food including bread exposed to dust	18	428.00
Unwrapped food exposed on counters	20	361.00
Sale of meat from other than a butcher's shop	1	42.00
Fly infested premises	1	32.00
Cockroach infested premises	12	567.00
Pets meat sold from butcher's shop	2	4.00
Receptacle in drip tray	1	42.00
Returned bread	2	64.00
Unclean vehicle	1	42.00
Store horse meat in cafe	1	32.00
Refuse to state name and place of abode	1	22.00
Saliva from mouth used in marking of meat	5	91.00
Vegetables not stored 2 ft 6 in above ground	1	17.00
Food carried in "boot" of motor car	1	7.00
Unclean milk shake containers	1	32.00
Total	148	\$3,147.00

Private Hospitals Branch

Medical Officer-in-Charge: J. R. RADCLIFF, M.B., B.S., D.A., F.F.A.R.C.S.I.
Location: 52 Bridge Street, Sydney

In accordance with the licensing provisions and standards of the Private Hospitals Act, this Branch supervises Private Hospitals and Rest Homes. A medical officer in charge and three triple-certificated supervisory sisters comprise the non-clerical staff at central administration.

Premises are routinely inspected twice annually and additional inspections are made for licensing new or altered premises, in the event of complaint, to give advice, and to determine requirements for transfer of license.

Plans for new buildings, additions and alterations are discussed with licensees and their architects. Valuable advice is offered through a liaison with the Board of Fire Commissioners who have been consulted in over 100 instances during the last year, a threefold increase in 3 years.

The Private Hospitals Act and Regulations have been under intensive review during the year and amendments to them have been drafted.

SUBMISSIONS TO THE BOARD OF HEALTH

The following table shows the number of items submitted for consideration of the Board of Health at its monthly meetings in the last 4 years.

	1968	1967	1966	1965
New Licenses	16	20	27	17
Transfer of License	65	79	64	64
Amendments of License	151	149	168	89
Appointments of Resident Manager	267	307	313	320
Plans Submitted	164	183	175	166

METROPOLITAN AREA

Inspections carried out during the last 4 years have been as follows:

	1968	1967	1966	1965
By supervisory Sisters	954	943	853	605
By Sisters with Medical Officer	145	127	94	52

During the year the number of metropolitan Private Hospitals has fallen by 9 to 97 and the beds and cots by 144 to 3,836 but the number of Rest Homes has risen by 10 to 332 and the beds and cots by 1,264 to 11,391.

HEALTH DISTRICTS

The functions of the branch are exercised in the Health District by the Medical Officer of Health but items for the agenda of the Board of Health are processed by central administration.

During the year the number of Private Hospitals has decreased by 4 to 35 and the beds have decreased by 36 to 564. There is one additional Rest Home making 63 and Rest Home beds have increased by 168 to 1,756, cots remain unchanged.

ACCOMMODATION IN PRIVATE PREMISES IN N.S.W.

Year	Private hospitals		Rest homes	
	Beds	Cots	Beds	Cots
1961	4,131	191	5,680	58
1962	4,295	231	6,399	58
1963	4,619	252	7,497	49
1964	4,477	266	8,584	55
1965	4,433	273	9,358	71
1966	4,389	284	10,758	87
1967	4,271	412	11,633	113
1968	4,090	413	13,090	88

At the end of 1968 there were in New South Wales 526 premises with accommodation for 17,681 patients (an increase of 1,252 patients).

Division of Health Education

Director: Dr S. J. KRISTER

Address: 15-17 Young Street, Sydney

During 1968 the Division continued the development foreshadowed in the health education plan of 1964. The first group of 5 field health education officers was established to provide the services of a specialist officer in several of the Health Districts and in certain major programmes such as cancer and adolescent health.

Staff as at 31st December, 1968

	Established	Actual
Director	1	1
<i>Clerical Services—</i>		
Senior Clerk	1	1
Shorthand/writer typists	2	2
Office Assistants	2	2
<i>Information Services—</i>		
Publicity Officer	1	1
Assistant Publicity Officer	1	1
Films Officer	1	1
Publications Despatch Officer	1	1
<i>Nutrition Education Section—</i>		
Senior Dietitian	1	1
Dietitians	3	3
<i>Training Section—</i>		
Education Officers	2	1
<i>Research—</i>		
Research Officer	1	1
<i>Community Education Section—</i>		
Senior Health Education Officer	1	0
Health Education Tutor	1	1
Health Education Officers	5	3
	<hr/> 24	<hr/> 20

Health Education Advisory Council

The council met regularly throughout the year. An ad hoc committee on venereal disease was appointed following the report of the Australian Medical Association on venereal diseases in Australia. A report on health education needs of adolescents, high risk groups, teachers and health personnel was issued, making a number of recommendations which have been partially implemented.

A tuberculosis sub-committee was appointed to study the existing publicity and health education programmes of all agencies concerned in tuberculosis control and to make recommendations for improved programmes.

The Child Health Sub-Committee developed a pilot course for child-minding personnel of pre-school centres and this proved most successful. Further regular courses were prepared.

This sub-committee also set up a working party to make recommendations for an intensive health education programme for adolescents who have left school.

COMMUNITY PROGRAMMES IN HEALTH EDUCATION

School Health Education

The Division continued its close liaison with the Education Department in gradual implementation of the secondary schools health education syllabus. Teachers' information kits on "Mental Health and the Child", "Use and Abuse of Drugs" and "Nutrition and the Child" were completed. A large number of teachers approached the Division for assistance with health projects.

In-service courses for teachers were conducted on a number of occasions during the year at Sydney Teachers College and at several Child Health Centres.

The Division also provided consultative services and a considerable amount of resource material for the Catholic Teacher training institutions.

Teacher guides and filmstrips on venereal diseases were prepared during the year.

Adolescents

A senior health education officer and an assistant health education officer were established to develop a special programme for the age group 15–25 after school leaving.

Four areas offering opportunities for specific educational activities are to be explored, namely:

1. Formal Youth Groups.
2. Further education services for adolescents.
3. Industrial training programmes for adolescents.
4. Informal groups of adolescents who do not belong to organized community youth services.

Particular problems to be dealt with include human relationships, drugs and alcohol use and abuse, smoking and health, consumer health and nutrition.

Liaison has been established with many state and voluntary agencies interested in youth and steps were taken in conjunction with Macquarie University departments of education and psychology to examine youth health education needs in the Ryde pilot area as a basis for future projects.

A committee was established to sponsor courses on important topical health issues for potential leaders among adolescents. The division co-operated in the development of a successful pilot course by the Youth Education Seminars Committee and as a result, a number of such courses have been planned for 1969.

A pilot course on health needs of young people for administrators and senior officials of youth groups was planned and will be implemented in 1969.

Nutrition Education

Public Lectures

A large number of lectures were given to adult groups both in the metropolitan area and in country districts. Some lectures were also given to interested school children.

Regular discussions were held with expectant mothers attending prenatal classes. Over thirty of these were with prenatal classes organized by the Department and twenty with Karitane classes.

Fifty-one lectures were given to students attending various courses, these included student kindergarten and nursery school teachers, child welfare and probation officers, mothercraft and public health nurses and dietetic students.

Consultation and Therapeutic Diets

Four departmental prenatal clinics were attended weekly by a dietitian—Manly, Dee Why, Liverpool and Parramatta. A second clinic at Parramatta was attended for part of the year.

A clinic for overweight school children was conducted at Forest Lodge Child Health Centre and another was started mid-year at the Eastern Suburbs Child Health Centre.

Numerous verbal and written inquiries on all aspects of food and nutrition were answered, as well as requests for therapeutic diets. Modified fat and low calorie diet sheets were made available for distribution by doctors. Some therapeutic diet publications were revised and new items were added, including a list of milk-free commercial products.

Advice was given on the adequacy and suitability of the food service in six rest homes for the elderly and in two nursery schools.

Nutrition Publications

A number of nutrition pamphlets were revised, including "Food and Nutrition", "Salad Suggestions", "How to Lose Weight Wisely" and "Wise Eating for the Elderly". Material for two new pamphlets, "Facts About Food" and "Eat to be Fit" and a new poster on the 5 food groups was prepared.

School Canteen Survey

Special mention should be made of a large survey of two hundred school canteens covering State and private, primary and secondary schools, which was carried out during the year. A detailed investigation of all aspects of nutrition and management policy was made in order to provide basic information which will guide a major programme of nutrition education for canteen committees in 1969 and 1970.

Education on Drug Abuse

The problem of drug abuse appears largely to affect the age group 15–25, but the nature, extent and distribution of addiction to dependence producing drugs is not accurately known at the present time.

The educational task is complicated by the fact that drug abuse among young people is often a symptom of social and emotional disturbance; not a discrete entity but part of a pattern of behaviour problems in this age group which affects mainly the under-achievers, those with personality disorders and emotional difficulties and those seeking excitement in an otherwise unsatisfying environment.

To aid teachers and others who require authoritative guidance on drug abuse the Division carried out the following special activities during the year.

1. Teacher guides on drug abuse were published.
2. A leaflet for adolescents was produced and distributed.
3. A pamphlet for parents was prepared in association with the Police Department.
4. A number of seminars and meetings with education administrators and responsible community groups was arranged.
5. Modern films and speakers were made available for use by schools and youth groups on many occasions.

Perhaps the most valuable long term development was, however, the appointment of special field staff to develop a systematic youth health education programme.

Mental Health Education

The Division's part-time consultant in mental health, Dr R. Webb, made a number of experimental approaches to key groups of professional and service personnel who play an important part in shaping community attitudes to mental health. These included police, clergy, psychologists, industrial personnel and community aid organizations.

He also supervised a pilot programme of mental health consultation with a group of teachers in selected schools. A kit or brief manual of procedures in mental health consultation was produced during the year.

Ryde Pilot Health Education Project

The Ryde Municipality Project is now very well known and its aim of furthering Health Education increasingly accepted by the Ryde Community.

Projects in Ryde

(a) *In-service Courses on Health Education for Teachers.* Early in the year an In-Service Course for School Teachers, was introduced by the Child Health Centre in co-operation with North Ryde Psychiatric Centre and the health education tutor.

(b) *Parent Education Courses.* A Pilot Course of parent education was conducted by a Medical Officer on the staff of the Child Health Centre. An evaluation of the course is being conducted and a similar course planned for February, 1969.

(c) *Immunization.* In conjunction with Baby Health Centres and the Health Department of the Ryde Municipal Council, a campaign was introduced to encourage the immunization of young children prior to their enrolment at school, for the first term in 1969.

(d) *Child Injury Prevention.* This project continued in an attempt to reduce accidental injury and poisoning to children up to their 15th birthday.

(e) *Home Safety Course for Youth Leaders.* A Home Safety Course was arranged for Youth Leaders in Ryde, anticipating that the Youth Leaders would follow up with the young people in their various organizations the importance of home safety.

(f) *Duke of Edinburgh Home Safety Award.* The Ryde Child Injury Prevention Committee was requested to re-design the syllabus for the Home Safety Section of the Duke of Edinburgh Bronze Award Course.

(g) *Comparison Study on Home Accidents.* Arrangements were made with the Bankstown District Hospital to conduct a comparison study of accidental injury and poisoning occurring to young children in Ryde and Bankstown. While Bankstown is double the size of Ryde in population and industry it is considered that there is enough similarity to permit a reasonable comparison study. The Bankstown accident rate correlated well with the Ryde results in most age categories.

(h) *12th Industrial Safety Convention 1968, Macquarie University.* An invitation was extended to the Ryde Child Injury Prevention Committee to participate in the 12th Industrial Safety Convention. A display of poisons and poisonous plants was arranged, prize winning posters were exhibited, films on safety were shown and a lecture on poisoning and accidental injuries was presented.

(i) *Health Education Lectures.* The Health Education Tutor provided many lecture-discussions on a variety of Health Subjects for local organizations within the Ryde Municipality as well as at Wollongong, Newcastle, Wentworth Falls and Springwood.

(j) *Ryde Community Activities.*

(a) *Ryde Municipality Committee (Tarban Project).* The Tutor continued as secretary for this Committee which undertook a number of health and welfare tasks during 1968.

(b) *Kindergarten Facilities in Ryde.* The existing kindergarten facilities in Ryde were studied in an attempt to co-ordinate the health education opportunities implicit in this work.

Special Campaigns

(a) *Tuberculosis.* The Department again undertook a vigorous publicity campaign in regard to tuberculosis. Extensive use was made of press and radio advertising and television to publicize the movements of the Department's mobile X-ray caravans.

Educational material on tuberculosis was supplied to press, and also to radio stations and displays of teaching posters were arranged during the year.

(b) *Immunization.* An intensive campaign was continued with regard to the use of Sabin Oral Vaccination against Poliomyelitis. A campaign was also initiated with regard to booster immunization for children against diphtheria, whooping cough, tetanus and poliomyelitis.

(c) *Smoking and Health.* Efforts were made during the year to continue the programme initiated in 1966 on the effects of smoking and health. The Department co-operated with the Australian Council on Smoking and Health in publishing a new bulletin on Smoking and Health. Films on the subject have been obtained and the services of speakers were arranged on request by a number of community groups and schools.

A further printing of *Smoking and Health Information Kit* for teachers was distributed to schools and youth organizations.

Health Week 1968

This campaign is organized by the N.S.W. Health Week Council the Division's Publicity Officer acting as the Council's Secretary. The campaign, which was opened by the Minister for Health used the slogan "Health Wins". Emphasis was placed on the numerous health services provided for the prevention of sickness and their fuller use encouraged.

A number of the Department's State and Psychiatric hospitals took an active part in the campaign. Their activities included:

- visits to hospitals by selected groups,
- addresses and film screenings to community groups.

During Health Week, 70,000 copies of a Health Week newspaper were again published in the metropolitan area and 100,000 copies of a special Health Week pamphlet were issued.

Many copies of the Campaign's poster, copies of a special Health Week information "kit" were distributed to those taking a direct part in the campaign.

HEALTH INFORMATION SERVICES

The Information Services Section continued to promote health publicity and public relations programmes using all mass media.

The issue of press and broadcast material, distribution of publicity material and organization of displays and film screenings continued to increase in the manner typical of recent years.

Publications

A heavy demand was experienced for printed educational material, chiefly from local authorities, schools and Baby Health Centres but requests from the general public also increased. The extension of health education programmes in the Health Districts created a further demand for material. Total approximate distribution figures are as under:

Posters	..	..	..	..	..	..	..	34,200
Pamphlets	..	..	..	..	..	1,090,000		
Booklets	...	..	..	...	..	452,850		
							<hr/>	1,542,850
								<hr/>
								1,577,050
								<hr/>

This did not include mass distribution of certain items by the Government Printer, such as *Healthy Motherhood*.

Personal Medical Record Cards, Sabin Vaccination Consent Cards, and Triple Antigen Immunization Cards distributed amounted to approximately 126,800, 316,400 and 110,400, respectively.

Departmental Periodicals

The quarterly journal of the Department, *Health in N.S.W.*, widened its circulation during the year to 19,500.

The quarterly Newsletter for Medical Practitioners also expanded its circulation during the year to 9,000 copies.

A new monthly bulletin to improve intra-departmental communications concerning the activities of Divisions and hospitals was begun during the year.

PRESS AND RADIO

All metropolitan, suburban and country papers were supplied with weekly press articles during the year, emphasizing news items of a topical nature. Weekly broadcast scripts were sent to all radio stations.

Nutrition articles were again one of the most sought after topics for country and suburban newspapers and radio stations. Major national newspapers and journals were supplied with nutrition material on a number of occasions.

FILMS

Extensive use was again made of the Department's 16-mm film resources. Two hundred and six screenings were given to a total audience of 5,691. The demand by borrowers on the Department's film library continued to increase. Film loans during the year amounted to 3,395 and screened to audiences totalling over 100,000.

EXHIBITIONS AND DISPLAYS

A heavy demand was made during the year on the Department's resources for exhibition and display material as under:

Royal Easter Show—5th to 16th April, 1968. For the sixth time the Department was an exhibitor at the Royal Easter Show. The main feature of the exhibition was the screening of health films and emphasis was given to the subject of "Smoking and Health" and "Cervical Cancer in Women".

Albury Trade Fair—15th to 19th September, 1968. An exhibition for the above Fair was prepared in collaboration with the Division of Occupational Health.

3rd Australian Medical Congress—13th to 18th August, 1968. A display on the subject of "Smoking and Health" was arranged in collaboration with the Australian Council on Smoking and Health.

Careers Exhibition—2nd to 5th September, 1968. An exhibit was entered in the above Exhibition at the Sydney Town Hall. As part of the Ergonomics Careers Exhibit in this display physical fitness tests of children were carried out.

Waratah Spring Festival—12th October, 1968. The Health Department entered a float in the procession held conjointly with the above Festival, coinciding with the Olympic Games the theme was "In Work or Play Health Wins".

Health Week—20th to 26th October, 1968. Once again the Department supported the Health Week Campaign with the staging of exhibits. A display featuring a 10 Point Plan for Health was entered in the exhibition arranged by the Health Week Council at the Commonwealth Savings Bank, Martin Place.

Armidale Trade Fair—21st to 25th October, 1968. An exhibition for the above Fair was prepared in collaboration with the Division of Occupational Health.

Old Peoples' Week—5th to 7th November, 1968. A departmental exhibit was arranged in the Town Hall during Old Peoples' Week, conducted by the Old Peoples Welfare Council.

RESEARCH ACTIVITIES OF THE DIVISION

Major Projects within the Division

Mental Illness Attitudes Survey

The first part of this survey: development of an attitude scale to establish differences in attitudes to mental illness, and to describe the current community attitudes, was completed.

Major Projects at Universities

(a) *Health Attitudes Study at University of N.S.W.* The report on this study of adolescent health attitudes was completed and circulated in 1968. A further development was planned, namely an evaluation of the Health Course at Sydney Teachers College.

(b) *Sydney Drinking Patterns.* This study was granted additional funds by the National Health and Medical Research Council. A preliminary report was presented in October, 1968.

Pretesting of Departmental Publications

Pretests were placed on a more scientific basis by the development of a computer programme for analysis of questionnaires. The Division's capacity for pretesting increased thereby. Five such pretests were carried out.

Medical Examination Centre

Medical Officer-in-Charge: J. M. ORR, M.B., B.S.

Location: 86-88 George Street North, Sydney

STAFF

Medical Officer-in-Charge; Senior Medical Officer; 4 Medical Officers; 3 Nursing Sisters; 2 Clerical Officers; 9 Office Assistants; 2 Shorthandwriter Typists; 4 Visiting Psychiatrists, part-time; 1 Visiting Cardiologist, part-time.

FUNCTIONS

Since its establishment in May, 1963 the functions of the Centre have continued to expand and now comprises the following:

- (1) Medical examination of candidates for permanent or temporary employment in forty-eight Public Service Departments.
- (2) Examination of candidates seeking employment in thirty-two Allied Services.
- (3) Medical Examination to determine fitness for admission to the State Superannuation Fund.
- (4) Examination of Trainees for the Education Department and the Public Service Board.
- (5) Assessment of medical fitness to continue in employment and medical fitness to continue traineeships. The Centre is responsible for all decisions concerning premature retirement on medical grounds.
- (6) Special examinations including lantern tests of colour vision, fitness for employment as a Fumigator, fitness to work as a Diver, fitness for the award of full sick leave privileges. The Centre also conducts examinations in connection with Public Service Board appeals and where doubt exists concerning the medical fitness to hold a driving licence. Audiograms and Electrocardiographs are carried out and the opinions of Consultant Psychiatrists, Consultant Cardiologist and other Specialists are arranged when required. The Centre utilizes the facilities of The Institute of Clinical Pathology and Medical Research, the Psychiatric Research Unit, the Tuberculosis Division and the Division of Occupational Health when necessary.
- (7) Medical assessments on behalf of the Transport Retirement Board.
- (8) Assessments for the Local Government Superannuation Scheme.
- (9) Examinations are carried out to determine fitness to resume duty following premature retirement on medical grounds.
- (10) When required examinations are arranged in country areas, interstate and overseas and the results assessed at this Centre.
- (11) Ex-Servicemen are examined to determine whether their war-caused disabilities warrant the granting of travel concessions.
- (12) Members of the general public are vaccinated on request.
- (13) Medical examinations of employees of the Metropolitan Water Sewerage and Drainage Board and the Electricity Commission who are seeking admission to the State Superannuation Fund are assessed at this Centre.
- (14) Medical certificates of non-pathological illnesses are assessed and examination arranged when indicated.
- (15) Employees who are too ill to attend for examination are visited at home or in hospital when necessary.
- (16) This Centre is responsible for the staffing and administration of the First-Aid Centre in the State Office Block.

MEDICAL EXAMINATIONS

Teachers and Trainee Teachers

The following examinations have been carried out at the Medical Examination Centre.

	1967	1968
Full Medical Examination of Teachers College Entrants ..	380	255
Medical Examination to determine fitness for permanent employment and admission to the State Superannuation Fund	1,336	1,249
Examination to determine fitness for employment as temporary teachers	1,144	1,484
Sick leave cases and fitness to continue	55	76
Review examinations and re-examinations	88	85
Psychiatric examinations	604	680
Cardiologist examinations	58	69
	<hr/> 3,665	<hr/> 3,898

The results of the following examinations were also assessed at this Centre.

	1967	1968
Students seeking entry to Teachers College	2,709	4,149
Students graduating from Teachers College	2,831	2,651

This Centre also arranged for the following examinations of teachers to be carried out in country areas and the results were then assessed at this Centre.

	1967	1968
Examinations for permanent appointment and admission to the Superannuation Fund	521	647
Examination of applicants for employment as temporary teachers	932	1,188
Sick leave cases and fitness to continue	41	47
Other examinations including X-rays and examinations for overseas exchange	141	153
	<hr/> 1,635	<hr/> 2,035

During the year forty-one teachers were retired on medical grounds (59 retirements in 1967). Of these fourteen were retired for psychiatric reasons (34 per cent) and twenty-seven for general medical disorders (66 per cent).

The age distribution of these retirements is as follows:

	1967	1968
Under 30 years	2	7
30 to 39 years	4	7
40 to 49 years	6	6
50 to 59 years	41	20
60 years and over	6	1
	<hr/> 59	<hr/> 41

The following conditions were responsible for these retirements:

	1967			1968		
	M.	F.	Total	M.	F.	Total
Cardiovascular disease	14	4	18	7	2	9
Mental Illness	8	8	16	7	7	14
Disease of Central Nervous System	2	2	4	1	2	3
Kidney Disease	0	1	1	0	1	1
Malignant Disease	1	3	4	4	0	4
Arthritis	2	2	4	1	3	4
Respiratory Disease	2	2	4	3	0	3
Other Conditions	2	6	8	2	1	3
	<hr/> 31	<hr/> 28	<hr/> 59	<hr/> 25	<hr/> 16	<hr/> 41

The causes of retirements under the age of 40 years are as follows:

Age	Sex	Medical Condition
22	F.	Post Traumatic Psychoneurosis.
22	F.	Schizophrenia.
24	F.	Rheumatoid Arthritis.
24	F.	Obsessional Neurosis.
25	F.	Post Traumatic Cerebral Syndrome.
26	M.	Anxiety State.
27	F.	Chronic Depressive State.
31	M.	Personality Disorder.
34	M.	Glioma of Cerebellum.
34	F.	Anxiety Depressive Reaction.
35	F.	Polycystic Kidneys and Hypertension.
37	F.	Collagen Disease.
38	M.	Cyclothymic personality and Depression.
39	F.	Neurotic Depression and Personality Disorder.

Public Service and Allied Services

Examinations carried out at Medical Examination Centre.

	1967	1968
Medical Examinations for permanent appointment and admission to the State Superannuation Fund	4,494	5,185
Examinations for fitness to continue in the Service	241	207
Re-examinations	301	239
Special examinations including fitness to resume duty following retirement and Cardiologist examinations	202	142
Psychiatric Examinations	355	370
	<u>5,593</u>	<u>6,143</u>

This Centre also arranged the following examinations in country areas and results were assessed at this Centre.

	1967	1968
Examinations for permanent appointment and admission to the State Superannuation Fund	1,403	1,554
Examinations for fitness to continue in the Service and Fitness to Return	85	69
Special Examinations	207	198
	<u>1,695</u>	<u>1,821</u>

During the year, one hundred and twelve Public Servants were retired on medical grounds (125 in 1967). Of these, twenty-three were retired for psychiatric reasons (20 per cent) and eighty-nine for general medical disorders (80 per cent).

The age distribution of these retirements was as follows:

	1967	1968
Under 30 years	7	3
30 to 39 years	8	15
40 to 49 years	23	24
50 to 59 years	69	63
60 and over	18	7
	<u>125</u>	<u>112</u>

The following conditions were responsible for these retirements:

	1967			1968		
	M.	F.	Total	M.	F.	Total
Cardiovascular Disease	27	2	29	31	2	33
Mental Illness	24	4	28	21	2	23
Disease of the Central Nervous System ..	14	2	16	12	1	13
Kidney Disease	1	0	1	1	0	1
Malignant Disease	5	0	5	7	0	7
Arthritis	11	5	16	6	4	10
Respiratory Disease	11	0	11	3	0	3
Other Conditions	18	1	19	12	10	22
	<u>111</u>	<u>14</u>	<u>125</u>	<u>93</u>	<u>19</u>	<u>112</u>

The causes of retirement under the age of 40 were as follows:

<i>Age</i>	<i>Sex</i>	<i>Medical Condition</i>
21	M.	Friedrichs Ataxia.
22	M.	Epilepsy.
27	M.	Fracture dislocation ankle.
30	M.	Cerebral metastatic carcinoma.
32	M.	Hysterical Conversion Reaction.
32	M.	Paranoid Schizophrenia.
33	M.	Pulmonary Tuberculosis.
35	M.	Intervertebral Disc with psychiatric overlay.
36	M.	Cataract left eye; Keratoconus right eye.
36	M.	Injury right leg; Hysterical dissociative state.
36	M.	Cervical Spondylitis, Chronic Anxiety State.
36	M.	Chronic Schizophrenia.
38	M.	Anxiety State.
38	M.	Coronary Occlusion; Amputation of leg.
38	M.	Hodgkins Disease.
39	M.	Carcinoma of Colon.
39	M.	Duodenal ulcer, Splenectomy, Thrombosis leg, Pulmonary embolus.
39	M.	Anxiety State.

Other assessments were carried out as follows:

	1967	1968
Examination of Returned Servicemen for travel concessions..	2,896	2,381
Vaccinations	357	203
Electrocardiographs	134	179
Audiograms	224	314
Medical assessments on behalf of Metropolitan Water, Sewerage and Drainage Board, Electricity Commission, State and Psychiatric Hospitals	504	965
Sick leave Certificates for Non-Pathological Conditions ..	504	514
Ophthalmic Surgeons examinations	1,660	1,476
Ear, Nose and Throat Specialist examinations	70	59

First-Aid Centre, State Office Block

During this year a total of 2,930 services were rendered at the First-Aid Centre. Of these, 1,070 were polio vaccinations. Of the 1,860 employees seeking first-aid, 943 were males and 917 were females and 359 (14 per cent) of these cases were due to accidents at work. During this period 30 patients were referred to Sydney Hospital for urgent treatment and a further 6 were referred to the Sydney Eye Hospital.

COMMENT

1. The Centre continues to expand and during 1968 the work performed increased by a further 10 per cent.
2. During this period, 2,970 candidates failed to attend for their appointment for examination.
3. The recommendations of the Methods Survey carried out in May, 1966, have now largely been implemented.
4. In spite of the additional work which has been carried out the Centre still finished the year with an unreasonably large waiting list. This could undoubtedly be reduced if the number of unkept appointments was not so large.
5. Towards the end of 1968, the Centre was granted the status of a Junior Division.

Medical Statistician

Medical Statistician: D. L. JONES, M.B., B.S., B.Sc.

Location: 52 Bridge Street, Sydney

The Medical Statistician is a point of reference within the Department for statistical information of a medical nature, and many requests, both from within the Department and from members of the public, have been met.

Surveys constitute a major part of the work. This is usually in an advisory capacity when surveys are being planned, and advice is given during execution of the survey by the Division concerned, and any necessary help with analysis and interpretation of results. The bulk of the clerical work and work of the actual survey is carried out by the Division concerned. Liaison is maintained with the departmental systems analyst, and his advice obtained when it is likely that A.D.P. methods will assist a project. Only in small surveys is the actual coding and analysis carried out by the Medical Statistician. One case has arisen during the year in which the Medical Statistician was presented with a completed survey to analyse, having had no previous knowledge of it. This is now not the usual practice, fortunately. Preliminary advice has ranged from dissuading the person concerned from carrying out a badly conceived survey to help with the design of forms and method of coding data. Sometimes this is all that is required.

Major surveys this year have both been for the Division of Health Education. The first is a survey of School Canteens for the Nutrition Section. All data has been collected, and analysis is proceeding. The other is a survey on Attitudes to Mental Illness, of which the design and prepilot stage have been done. Work will proceed next year on the definitive survey.

Poison case reporting has been running smoothly and monthly poison reports from about 40 per cent of New South Wales Hospitals are received. In spite of incompleteness, a good idea of the pattern of poisoning is obtained and the information disseminated to those concerned within the Department.

Poisons Branch

Senior Pharmacist: Mr R. M. DASH

Location: 52 Bridge Street, Sydney

STAFF

The staff of the Poisons Branch comprises 1 Senior Pharmacist, 5 Pharmacists, 1 Clerk, 1 Shorthandwriter/Typist and 1 Office Assistant.

FUNCTION

The Poisons Act, 1966, as amended and Regulations thereunder are administered by this Branch. This Act relates to the regulation, control and prohibition of the sale and use of poisons, restricted substances, drugs of addiction and certain dangerous drugs. Secretarial services are provided for the Poisons Advisory Committee, its sub-committees and the Medical Committee established under section 30 of the Poisons Act.

The Branch also acts under legislation relating to standards for drugs. This legislation is currently under review.

ACTIVITIES

Inspections are made of premises where drugs or poisons are manufactured or distributed. Particular attention has been given to manufacturers and wholesale distributors of drugs, and to pharmacies, medical practitioners, dentists, veterinary surgeons and public and private hospitals. Advice on procedures necessary to conform to requirements of the legislation which the Branch administers is given, and reports prepared where necessary. Emphasis has been given to this advisory role, legal action having been taken only in extreme circumstances.

The total number of manufacturers and wholesale distributors of drugs and poisons is at present unknown. However, manufacturers and wholesale distributors of drugs of addiction must hold a license for this purpose. Licenses and authorities coming within the scope of the Poisons Act which were in effect as at 31st December, 1968 were as follows:

Licenses to sell substances specified in Schedule One, Two or Three of the Poisons List	212
Licenses to manufacture, sell, distribute and supply drugs of addiction ..	36
Licenses to sell, distribute and supply drugs of addiction	188
Medical practitioners	7,791
Pharmacists	5,093
Dentists	1,915
Veterinary surgeons	731

The Poisons Act requires a medical practitioner to obtain the authority of the Director General to prescribe a drug of addiction for a person who is, in the prescriber's opinion, an addict, or to prescribe a drug of addiction continuously for more than two months for the treatment of any other person. This provision has now been in operation for more than 12 months, and appears to be fulfilling its intended function. It has provided some statistics on the incidence of addiction in this State, and on a number of occasions has assisted medical practitioners in the management of their patients.

Persons in respect of whom authority to prescribe drugs of addiction have been issued have been classified as patients requiring continuous therapy with drugs of addiction for organic illness or as addicts on the advice of a Medical Committee established under the Poisons Act. However, it must be noted that persons classified as addicts do not recognize themselves as such, and do not constitute a criminal or social problem. During 1968, 671 applications for authority to prescribe drugs of addiction were received. These were classified as already indicated to give the following figures:

Patients	..	..	..	..	..	..	..	609
Addicts	..	..	..	..	..	..	..	62

Close liaison with Health authorities in other States and the Commonwealth has been maintained. Similarly, liaison has been established and maintained with other State authorities involved in matters relating to the distribution and use of poisons and drugs. The Department has been represented during the year by officers of the Poisons Branch on two Committees organized by the Standards Association of Australia. Representation has also been provided on the National Therapeutic Goods Committee and other co-ordinating bodies.

Work has proceeded on measures to establish uniform standards for therapeutic substances throughout the Commonwealth. It is considered that a new Act is necessary to provide for such standards, to require persons engaged in the manufacture and wholesale distribution of therapeutic substances to be licensed for those purposes, and to permit the examination and control of claims made in advertising of therapeutic substances. A Bill for this purpose is at present being drafted for consideration.

In line with the emphasis on public education as a means of combating drug abuse, the Branch has provided speakers for meetings of professional groups, parents, service organizations, and students. In fact, the major effort of Branch officers during the first full year of its existence has been directed towards combating drug abuse, by investigations and inspections to prevent diversion of drugs from legitimate channels, and by advising and educating persons distributing drugs or having a possible influence on their use.

PREVENTIVE MEDICINE

Bureau of Maternal and Child Health

Director: A. DOUGLAS, F.A.C.M.A., LL.B., M.B., Ch.B., D.P.H., D.T.M.&H.

Location: 19 O'Connell Street, Sydney

Administrative Re-organization

The role of the Section of Special Services has been changed from a line of authority function to that of a staff group who act solely as consultants and advisers to the Bureau Central Administration as a whole, to Senior Medical Officers in Child Health Centres, and to Medical Officers of Health in Health Districts.

The functions of each Section of the Bureau have been clarified and lines of authority clearly stated, while at the same time greater authority and responsibility has been delegated to Senior Medical Officers in Child Health Centres, by issuing appropriate directives and revising statements of duty.

The principle of extending the use of departmental cars within the Bureau is being implemented by Central Administration on a progressive basis. After a period of adjustment this should allow additional mobility for field staff and result in greater efficiency and economy.

Integration of Bureau Services

During the year informal integration of the three Sections of the Bureau has continued, and communication between Sections and disciplines has been considerably improved by the use of regular group meetings of those at the same administrative level, or in the same disciplines. Group meetings of Senior Medical Officers in Child Health Centres, Psychologists, Social Workers, Speech Therapists, Medical Officers, and Nurses have been held in the course of this year. It is proposed to extend this principle and to hold weekly meetings of the Bureau Directorate. These group meetings, as well as improving communications within the Bureau, serve an important function in involving individuals at all levels in consultation and participation in decision making and policy recommendations.

Child Health Centres

During the year the Under Secretary and the Director of State Health Services visited Child Health Centres in the metropolitan area, and discussions took place on work loads, waiting lists, staffing, and organization of Child Health Centres. One important outcome of these visits is that Central Administration is now regularly informed of the waiting list situation at each Child Health Centre.

Health Districts

All Health Districts have been visited by the Director or Assistant Directors during the course of the year, and discussions have taken place with Medical Officers of Health on maternal and child health matters.

Research and Survey Work

Dr T. R. McCall, Assistant Metropolitan Medical Officer of Health, was seconded to the Bureau to carry out a survey of Well Baby Clinics and Paediatric Referral Clinics in order that guide lines for further expansion of these Clinics can be established.

Miss J. M. Gormly was appointed to the Bureau, for a period of 18 months, as a Graduate Clerk, in order to carry out a survey on Bureau nursing services. This is the first formal operational research to be carried out in the Bureau as a special project.

In-Service Training Course in Community Health Nursing

Two full-time, ten-week courses, were held during the year. The number of officers who have completed the In-Service Course up to the end of 1968 is set out hereunder:

Agency						Pre 1968	1968	Total
Maternal and Infant Care						54	17	71
Child Health						75	12	87
Geriatrics						2	..	2
Psychiatric Services						4	8	12
Mentally Handicapped						2	..	2
District Nurses' Association						4	5	9
Commonwealth Health Dept						1	..	1
Division of Tuberculosis, Domiciliary Section						7	..	7
Epidemiology Section						2	..	2
Anti-Tuberculosis Asscn.						4	..	4
Private Hospitals .. .. .						..	1	1
Total						155	43	198

SECTION OF MATERNAL AND INFANT CARE

Assistant Director: MAUREEN GRATTAN-SMITH, M.B., B.S., D.P.H.

Location: 19 O'Connell Street, Sydney

Staff

Establishment: One Senior Medical Officer (Infant Care), one Senior Medical Officer (vacancy), three full-time and one part-time Medical Officer. One Nurse Inspector, one Deputy Nurse Inspector, six Assistant Nurse Inspectors, eight clerical officers.

At the Baby Health Centres, there were 239 full-time sisters employed, 55 part-time, 1 sister in training under bond.

Introduction

The work of this Section is based primarily on the services given through Baby Health Centres. Other aspects include medical clinics for prenatal care, assessment without treatment for problems arising in the management and rearing of children under 5 years (Well Baby Clinics) and medical examination of children in fixed locations, Day Nurseries and Kindergartens. The study of maternal deaths continues, the value lying in the exposing of defects in facilities and care which, if corrected, would not only prevent deaths but minimize the morbidity associated with pregnancy and childbirth, the effect on the mother and also the child for all its life. The full effects of this morbidity is often unrecognized.

The establishment of Commonwealth-wide standards for perinatal deaths by the introduction of definitions and certificates common to all States was completed in New South Wales in 1968. The basic survey work necessary was carried out in this State between 1958 and 1968 and it is gratifying to have finally achieved the original objectives.

A comprehensive study of Caesarean Sections for one year has been completed and an article prepared for publication early in 1969. Other studies in conjunction with the Royal Alexandra Hospital for Children, the School of Public Health, University of Sydney and the Oliver Latham Laboratories, North Ryde Psychiatric Centre, have been carried out and are continuing.

The number of births in New South Wales increased during 1968 from 78,843 to 81,696 in spite of the wide use of the contraceptive pill. One in thirteen of these births were to unmarried mothers. One third approximately of these mothers are now keeping their babies, resulting in an increase in the problems associated. Caution has to be used when approaching the problem because we do not always know if the mother is keeping her baby or not and embarrassment can be caused particularly if the parents of the girl do not know about the pregnancy. In spite of this, a special effort is made to give as much assistance as possible to the unmarried mother. The area which needs to be improved is housing, child minding and training for employment.

The number of individual attendances at Baby Health Centres increased by 8,000; 144,669 individual mothers attended, this is well in excess of the number of births and represents the children over one year of age who attend. The total number of attendances was 1,022,793, of which 45,659 represents attendances of children over 2 years of age. Although the pre-school (2-5 years) child is constantly spoken of as the age group with the least coverage, it can be seen from the figures that many "over-tuos" attend. Should a concerted effort be made to examine medically all three-year-olds in the community, which is recognized as the most fruitful age, it would not involve much persuasion to increase these attendances and so supply the clientele.

Apart from the mothers who attended the Centres with their children, 57,403 were seen in the Obstetric Hospitals prior to discharge and 24,396 hours or 3,471 working days were spent by the Baby Health Centre sisters on home visiting. Even this generous allocation is not sufficient to cover all families and priority visiting is still in practice.

To home visit 81,000 families even once is a mammoth task, particularly in terms of the nursing staff available. Even if the staff were available much time can be wasted by visiting the homes of capable and knowledgeable mothers; further, many Australians resent the continued intrusion into their privacy although most accept one visit and more if there are problems. Priority visiting is the most efficient and effective answer.

To all these figures must be added the services given through the Far West Children's Health Scheme which conducts many clinics (approximately 61) in country areas not covered by our services. There is also the coverage given by the Australian Mothercraft Society through their fixed and mobile clinics.

The resultant figures suggest that 95 per cent of all children under one year of age in 1968 were seen by the three organizations conducting Baby Health Centres.

During 1968, 8,396 medical examinations were conducted on children under 5 years of age and 10,653 prenatal examinations were made.

The role of the Baby Health Centre sister has changed in the last 10 years with the advent of a more resilient attitude to the content of the feeding bottle and the extensive variety of canned infant foods on the market. The socio-economic and cultural conditions of the families behind the baby have always been a major consideration because one cannot treat the infant in a vacuum. A number of Public Health workers repeat the catch cry of "family based services" without necessarily wishing to be involved in maternal care. It is obvious to all who are closely associated with the field that the whole family must always be the basis for services and vital to this is the maternal figure.

One of the most promising and encouraging innovations in 1968 has been the involvement in Baby Health Centre work of the psychiatric staff. The domiciliary mental health programme, in which the future surely must lie, has included the Baby Health Centre sisters and their clients. Much value has come of combined group discussions of medical and nursing staff of both the Psychiatric and Maternal and Child Health services. These groups have been small and have permitted an interchange of ideas followed by mutual support when dealing with the increased problems arising within the community. Groups are formed within the metropolitan sub-divisions as set out by the psychiatric services. The pattern of modern development is based on specialization and inter-communication and there is no doubt that this type of combined effort is most effective.

The area requiring the most attention is prenatal care and training for parenthood. Both have been increased during 1968 in the metropolitan and country areas. Much more needs to be done because of the lack of knowledge and awareness of members of our community of their own role as parents. In the rapidly changing and permissive society most young parents are motivated to learn about these responsibilities. As breast feeding is becoming the routine demanded by the young mother and rapidly increasing, so also is the awareness of the responsibilities of parenthood. The role of this Section is seen as providing this service which can only be done on a personal or small group basis and not by the old methods of mass media. The Baby Health Centres represent the best opportunity for this type of work. This combined with the innumerable calls made per telephone to medical staff on all manner of subjects relating to family life gives a wide coverage of the population. The anonymity of the telephone permits men and women to seek information on problems they find difficult to discuss even with their doctors.

Given adequate support much can be achieved in dealing with the families with problems and the problem families but the emphasis on prevention must remain and does in the work of this Section. We have unequalled opportunity and coverage of the community to continue to fulfil our main function which is and has always been to keep well babies well and from the beginning to give support and advice to the mother and make known to her the many services available in the community for her family.

Baby Health Centre Buildings

At the end of 1968, there were 440 Baby Health Centres operating in New South Wales consisting of 159 in the metropolitan area and 281 in the rest of the State. During that year 10 additional new centres were established and 3 more transferred to new premises, 3 centres were closed as shown hereunder. The building and equipment in each case was subject to 75 per cent subsidy by the Department of Public Health.

Additional centres in new premises:

- 15-1-68—Lake Illawarra South.
- 15-1-68—Bingara.
- 8-2-68—West Pymble.
- 9-4-68—Frenchs Forest.
- 26-4-68—Tottenham.
- 29-5-68—Regents Park.
- 6-6-68—Talbingo.
- 13-7-68—Nyngan.
- 19-8-68—Walgett.
- 4-12-68—South Marrickville.

Replacement centres in new premises:

- 7-8-68—Drummoyne.
- 19-8-68—Jindabyne.
- 27-9-68—Eden.

Closure of centres:

- 19-8-68—Eucumbene.
- 28-9-68—Wyangala Dam.
- 6-11-68—Bigga.

Negotiations were also entered into during 1968, and tenders let, or work commenced, for new Baby Health Centres at Kiama, Doonside, Oatley, Corrimal, Wauchope, Boggabri and Deniliquin. Action was also initiated for new centres at St Peters, Raymond Terrace, Lake Cargelligo, Yenda, and major extensions to the Liverpool Baby Health Centre.

Australian Mothercraft Society

This organization conducts a number of centres in areas not covered by the departmental centres and also two mobile units which serve the area north of Hornsby and some far western suburbs such as Kellyville. A departmental subsidy was granted for these clinics and recently increased from \$5,000 to \$10,000 during 1968.

Attendances in Baby Health Centres

The number of individual mother attendance has increased by 7,919, whilst the number of total attendances has fallen by 18,254. These figures result from the continuing policy of encouraging more mothers to take their infants to the centres, and at the same time maintain independent management of their children, and to visit the Baby Health Centre only when necessary and not routinely.

Year		Births	Individual attendances	Total attendances	Nurses
1967	..	78,843	136,750	1,041,047	265
1968	..	81,696	144,669	1,022,793	267

This higher individual attendance and lower total attendance pattern is taking shape in the decentralized districts with greater definition in the major city areas as illustrated by the following table.

Health district							Individual attendances		Total attendances	
							1967	1968	1967	1968
Metropolitan	..	..	..	..	..	..	84,515	91,871	648,644	642,150
Newcastle	..	..	..	..	..	..	12,904	13,407	96,292	98,109
South Coast	..	..	..	..	..	..	11,804	11,439	83,566	80,602
Western	..	..	..	..	..	..	8,612	8,217	62,759	62,736
North Coast	..	..	..	..	..	..	3,739	4,760	32,871	30,269
North Western	..	..	..	..	..	..	4,513	4,705	36,226	34,397
Riverina	..	..	..	..	..	..	9,349	9,155	69,779	63,422
Broken Hill	..	..	..	..	..	..	1,314	1,115	10,910	11,108
							136,750	144,669	1,041,047	1,022,793

The number of mothers seen in Obstetric Hospitals increased by 10,200 from 47,038 in 1967 to 57,403 in 1968 and the number of home visits made was 57,265.

Maternity and Newborn

The work in this field will focus more on the preventive care offered in the prenatal and perinatal periods. The maternal mortality rate remains low but it becomes apparent from a study of the deaths that investigation is needed into toxæmia and thrombo-embolic phenomena.

The compulsory perinatal death certificate becomes effective on 1st January, 1969, and thereafter retrospective and prospective studies relating to prenatal care, maternal mortality and perinatal mortality will be undertaken by the Maternal Mortality Committee.

The following table shows live births and maternal, foetal and infant deaths in New South Wales, numbers and rates, from 1940 to 1965 in 5 year periods, and then 1966, 1967 and 1968.

SUMMARY OF LIVE BIRTHS AND MATERNAL, FOETAL AND INFANT DEATHS—NEW SOUTH WALES
1940–1968

Year			Live births	Maternal deaths (a)	Deaths under 1 year of age	Deaths under 28 days of age	Stillbirths (b)	Perinatal deaths (c)
Number								
1940	..	..	49,382	209	1,927	1,263	1,342	2,605
1945	..	..	61,662	139	1,889	1,344	1,540	2,884
1950	..	..	71,592	80	1,936	1,345	1,406	2,751
1955	..	..	74,407	55	1,850	1,288	1,243	2,531
1960	..	..	81,983	56	1,735	1,250	1,261	2,511
1965	..	..	78,069	25	1,492	1,087	947	2,034
1966	..	..	77,758	22	1,490	1,085	964	2,049
1967	..	..	78,841	19	1,452	1,058	863	1,921
1968	..	..	81,696	28	1,525	1,123	806	1,929
Rate								
1940	..	..	(d) 17.78	(e) 4.23	(e) 39.02	(e) 25.58	(f) 26.46	(f) 51.36
1945	..	..	21.14	2.25	30.63	21.80	24.37	45.63
1950	..	..	22.24	1.12	27.04	18.79	19.26	37.69
1955	..	..	21.30	0.74	24.86	17.31	16.43	33.46
1960	..	..	21.38	0.68	21.16	15.25	15.15	30.16
1965	..	..	18.71	0.32	19.11	13.92	11.98	25.74
1966	..	..	18.35	0.28	19.16	13.95	12.25	26.03
1967	..	..	18.30	0.24	18.42	13.42	10.83	24.10
1968	..	..	18.64	0.34	18.67	13.75	9.77	23.38

- (a) Including criminal abortions.
- (b) A stillborn child is defined as “any child of seven months gestation or over not born alive and includes any child not born alive which measures at least fourteen inches, but does not include any child which has actually breathed”.
- (c) Stillbirths plus deaths under 28 days of life.
- (d) Number per 1,000 of mean population.
- (e) Number per 1,000 live births.
- (f) Number per 1,000 total births (live and still).

Maternal Mortality Committee

Eight meetings of this committee were held during 1968, and a total of 38 deaths was considered. The table indicates which year the deaths occurred, and whether they were maternal or non-maternal.

Year of death		Number of deaths presented to Maternal Mortality Committee	Maternal	Non-maternal	Still under consideration
1966	..	3	3	..	..
1967	..	19	13	6	..
1968	..	16	12	2	2

For deaths occurring during and after 1968, the 8th revision of the International Classification of Diseases will be used. A large part of the committee meetings in 1968 was devoted to preparation of the article for the Caesarean Section Survey.

Publications Sub-Committee

This committee met twice early in 1968 to consider draft texts of the article based on the Caesarean Section Survey conducted from 1st April, 1966 to 31st March, 1967. The final form of the article was approved by the main committee in August and will be published in the *Medical Journal of Australia* early in 1969.

Perinatal Mortality Studies

Some delay occurred in finalizing the introduction of the compulsory perinatal death certificate which will be effective from 1st January, 1969. An article prepared by the Secretary of the Maternal Mortality Committee explaining the purpose and mechanics of the new certificate appeared in the *Medical Journal of Australia* in December, 1968. The effect of the certificate will be an apparent increase in the perinatal death rate as the definition of a perinatal death is now 20 weeks gestation or 400 grammes instead of 28 weeks.

It is our intention to study perinatal deaths with the same objectives in mind as with the study of maternal deaths i.e. to determine the cause in the mother which led to the perinatal death. This enables us to determine what improvements in care and facilities need to be made to prevent morbidity and mortality in the mother and child.

As there are approximately 2,000 perinatal deaths, it is obvious that the same method of assessment as in maternal deaths cannot be used for perinatal. There are a number of perinatal committees within hospitals which study the deaths in a particular hospital. In Newcastle there has been such a committee for a number of years and covers the deaths at two hospitals—Mater Misericordiae and Western Suburbs. This system could be followed in other hospitals and the staff of certain of the country base hospitals have indicated their interest. If this is pursued, this Section could correlate the findings and the Maternal and Perinatal Committee could conduct surveys into specific causes such as Toxaemia and Antepartum Haemorrhage in relation to Prematurity.

Free Obstetric Consultant Service

This service provides free specialist advice to all pregnant women unable to afford the extra fee for consultative advice, whether they live in metropolitan or country areas, provided they are residents of New South Wales. The care of the mother is arranged by the medical practitioner involved, and this Department is concerned only with final payment to the consultant.

Thirty-seven consultations were financed in 1968. Twelve new members' names were added to the Obstetric Consultant Panel, most of whom would be available for consultation anywhere in New South Wales.

Anaesthetic Consultant Service

No consultations were arranged in 1968. This service is provided when the consultant obstetrician needs the services of a skilled anaesthetist e.g., Caesarean Section.

Paediatric Consultant Service

Five consultants had their names added to this panel and six consultations were paid for by the Department during the year.

Free Service for Mothers and Babies Suffering from Rh Incompatibility

Two claims were made under the terms of this service during 1968, viz., claims for transport costs for mothers with Rh incompatibility, who needed to be transferred to a hospital with facilities for their adequate care.

Blood Transfusion Services

Mobile transfusion units in co-operation with the Red Cross Blood Transfusion Service continue to operate from all the Sydney metropolitan teaching hospitals and blood is readily available to all medical practitioners. Royal Newcastle Hospital runs its own mobile transfusion unit and blood bank for most of the Newcastle area.

Regional Blood Banks

There are now seventeen regional blood banks situated at base hospitals in New South Wales and one at Canberra. It is not envisaged that there will be any immediate increase in these. The general policy for most doctors is to send the patient's blood to the nearest blood bank for cross-matching. In very remote areas donor panels are available and instruction has been given to hospital staffs on bleeding and cross-matching.

Prenatal Clinics

These clinics continue to provide a valuable service in the metropolitan area of Sydney where they are conducted by departmental medical officers and teaching hospital consultants, and in the City of Greater Newcastle where specialist staff of the Royal Newcastle Hospital attend.

These clinics are free and are held at Baby Health Centres in areas where required. The sisters in charge of these clinics must possess the midwifery certificate in addition to the general and mothercraft certificates.

Six clinics were functioning at five centres at the beginning of 1968, and a further three, at Green Valley, Frenchs Forest and Mt Druitt, were opened during the year because of local needs. Three clinics still operate in the Newcastle district and no further changes are envisaged there.

At the Liverpool and Parramatta clinics a consultant obstetrician with specialist status attends and all hospital bookings, including blood tests, Papanicolaou smears etc., are done at the Baby Health Centre. At other centres the mothers must first attend their hospital to be booked and then referred by the hospital staff to the departmental clinics.

Trained nutritionists are available at four of the clinics, and a social worker from the Women's Hospital, Crown Street, now attends both Liverpool and Green Valley clinics.

ATTENDANCES AT PRENATAL CLINICS—1968

Clinic	Primiparae		Multiparae		Postnatal	Total visits	No. of Sessions
	First	Subsequent	First	Subsequent			
Blacktown	8	43	63	245	..	435	51
Dee Why	55	275	81	513	..	875	56
Frenchs Forest	1	8	3	8	..	20	25
Green Valley	6	35	39	153	..	233	35
Liverpool	94	503	204	1,231	1	2,033	53
Manly	66	277	75	328	..	746	48
Mt Druitt .. .. .	..	..	20	64	..	116	24
Parramatta (Mondays)	32	178	44	250	1	504	52
Parramatta (Thursdays)	27	171	77	469	..	744	51
	289	1,490	606	3,261	2	5,706	395
Newcastle Health District—							
Belmont	19	185	37	374	76	691	51
Cardiff	6	21	22	195	23	267	44
Charlestown	11	86	46	649	71	863	51
	36	292	105	1,218	170	1,821	146
Grand Total	325	1,782	711	4,479	172	7,527	541

Preparation for Motherhood Classes

In 1968 continuous courses of eight classes per course were held at Dee Why, Parramatta, Blacktown and Liverpool Baby Health Centres—thirty-six courses throughout the year. Three fathers’ evenings were held, two at Parramatta and one at Dee Why. In addition, two modified courses were conducted at the Training School for Girls, Parramatta.

Classes in mothercraft instruction were held in conjunction with Broken Hill and District Hospital physiotherapy classes, at Railway Town Baby Health Centre, Broken Hill, with an individual attendance of between 4–9 mothers at each class held each month. At Tamworth, in the North Western Health District, a course of six classes was held in November, 1968, and further classes are to be arranged in 1969.

The National Health and Medical Research Council has recommended that preparation for parenthood should be an ongoing training throughout pregnancy. Acting on this recommendation and on the obvious public need, expansion of the preparation for motherhood classes has been planned at nine new Baby Health Centres in the metropolitan area of Sydney from January, 1969, these centres are:

Cronulla	Green Valley	Jannali
Drummoyne	Hurlstone Park	Randwick
Frenchs Forest	Hurstville	Revesby

Negotiations are in progress to purchase a Swedish film to be used as a part of the programme.

Infant Care
WELL BABY CLINICS

Well Baby Clinics are medical clinics conducted in selected Baby Health Centres by Departmental medical officers for the assessment of children under the age of 5 years who are referred by Baby Health Centre sisters or by other nursing or medical personnel either intra or extra departmental. Guidance is offered to parents on the management of children under 5 years of age, and no treatment is given beyond simple counselling.

WELL BABY CLINICS—ATTENDANCES 1968

Clinic	Attendances				Referred from		Referred to						
	No. of Sessions	New Cases	Reviews	Total	Baby Health Centre	Other	Paed. Ref. Clinic	Child Health Centre	Guidance Clinics	G.P.	Hospital	Other	
Auburn	45	172	46	218	172	..	2	7	1	5	3	9	
Bankstown	50	210	73	283	186	24	10	10	..	46	4	23	
Blacktown	51	117	119	236	117	..	..	..	2	13	8	5
Campsie	23	109	11	120	108	1	..	3	..	1	..	..
Caringbah	22	88	22	110	85	3	..	..	1	7	1	..
Dee Why	49	168	69	237	151	17	..	..	..	33	17	2
Dulwich Hill	25	97	22	119	97	..	2	2	1	7	7	11	
Epping	49	174	73	247	172	2	1	4	..	41	3	..	
Forestville	44	142	59	201	133	9	..	3	5	28	1	5	
Frenchs Forest	15	59	2	61	59	..	..	..	..	2	..	..
Gladesville	40	182	49	231	166	16	..	2	1	18	12	4	
Glebe	13	35	19	54	35	..	..	7	3	2	4	..
Granville	45	183	30	213	182	1	5	9	..	46	14	4	
Manly	47	167	82	249	165	2	..	3	2	23	15	6	
Narrabeen	45	249	77	326	233	16	1	1	..	6	27	5	
Newtown	25	43	17	60	43	..	2	10	..	4	6	1	
Sutherland	27	115	90	205	109	6	3	5	..	19	10	11	
Turramurra	50	246	68	314	238	8	..	4	..	55	..	4	
Yagoona	24	104	40	144	104	..	..	1	..	11	2	7
Total	689	2,660	968	3,628	2,555	105	26	71	16	367	134	97	

PAEDIATRIC REFERRAL CLINICS

These clinics are conducted in Baby Health Centres by Departmental paediatricians and cases are referred from Well Baby Clinics or from general practitioners. No treatment is given, and the type of cases seen are mainly failure to thrive, emotional problems, unresolved vomiting and excessive crying.

PAEDIATRIC REFERRAL CLINICS—ATTENDANCES 1968

Clinic	No. of Sessions	New Cases	Reviews	Total	Baby Health Centre	Other	Hospitals	Child Health Centre	G.P. and Specialist
Chatswood ..	43	102	125	227	80	22	7	2	6
Fairfield ..	40	72	76	148	72	..	6	4	7
Hornsby ..	41	142	64	206	137	5	1	..	3
Kogarah ..	42	83	128	211	73	10	12	4	9
Liverpool ..	39	111	93	204	104	7	18	1	10
Paddington ..	37	71	66	137	70	1	10	2	5
Parramatta ..	42	82	128	210	80	2	10	2	17
Petersham ..	20	63	24	87	63	..	3	..	1
Ryde ..	44	121	91	212	110	11	..	4	17
Total ..	348	847	795	1,642	789	58	67	19	75

As from January, 1969, the term “Well Baby Clinic” will be used to cover the present “Well Baby Clinics” and “Paediatric Referral Clinics” and the number of clinics will be expanded from 27 to 36, with a uniform distribution throughout the metropolitan area.

HEALTH SERVICES TO KINDERGARTENS AND NURSERIES

A health service is available for children under school age who attend pre-school centres provided by the Sydney Day Nursery and Nursery Schools Association, the Kindergarten Union of New South Wales and certain local government authorities.

The service provides a medical examination for each new child enrolled at the centre, a parent interview whenever possible, and a further examination of any child when it is considered necessary. Information on health matters is made available when required to matrons, directors and teachers at the pre-school centres.

PARENT INTERVIEWS

When a new child is examined, one of the parents is interviewed whenever possible. This interview is particularly important in this age group, as the child cannot give reliable information. It is also an opportunity for health education of the parents, and gives valuable information on the relationship and depth of communication between the parents and their children, the parents themselves and the parents and other adults in their immediate environment. These factors have an important influence on the child’s ability to make his own adaptation in new environments.

The examination serves as a means of detecting deviations from the normal (physical, emotional or intellectual) at an early age, and as a learning experience for the child. Being conducted in the familiar and relaxed atmosphere of the pre-school centre makes the new experience easier for the child, and the introduction of new instruments and procedures can be done without frightening him and can thus build up his confidence in his ability to deal with new situations.

In cases where investigation or treatment is required, the child is referred to the family practitioner, the public hospital, or the local child health centre, whichever is applicable. Where it is not possible for a parent to attend when the child is examined, contact with the parent is made by letter.

During 1968, 324 visits were made to pre-school centres, by the two medical officers involved in this work. One thousand seven hundred and sixty-two parent interviews were conducted, 1,520 letters were written, and 594 children referred for further treatment.

The number of centres visited was:

Kindergartens	34
Nursery Schools	13
Child Minding Centres (Migrant Hostels)	6
Total Institutions visited	53

Examinations carried out were as follows:

Nursery Schools—

First examination	606
Subsequent examination	355
Total	961
Parent interviews	133
Letters sent	435

Kindergartens—

First examination	1,498
Subsequent examination	265
Total	1,763
Parent interviews	1,541
Letters sent	326

Child Minding Centres—

First examination	353
Subsequent examination	49
Total	402
Parent interviews	88
Letters sent	759
TOTALS—Medical examinations	3,126
Parent interviews	1,762
Letters sent	1,520

Lectures to Pre-school Training Colleges

A course of ten lectures annually is given at each of the pre-school training colleges, viz., the Sydney Kindergarten Training College and the Nursery School Training College. The course for each college includes lectures, films, assignments for the students and examination papers on child health, menstruation, human reproduction and related subjects. Talks and demonstrations are also arranged with other agencies for health education e.g., the Dental Health Association and the Division of Occupational Health re human kinetics.

Survey of Inborn Errors of Metabolism

URINE TESTING SURVEY

This survey was begun in March, 1964, to detect inborn errors of metabolism including phenylketonuria.

Total number of tests carried out from 1st January—31st December, 1968: 60,519.

Total number from beginning of survey 1st March, 1964—31st December, 1968: 289,527.

Total confirmed cases of phenylketonuria since 1964: 17.

Incidence of phenylketonuria for 1968: 1:30,258.

Incidence of phenylketonuria since survey began: 1:17,031.

GUTHRIE TEST FOR RAISED BLOOD PHENYLALANINE

The pilot study which began in November, 1966, was continued during 1968 in the original four teaching hospitals, viz., Women's Hospital, Crown Street; King George V Memorial Hospital; St Margarets Hospital and Royal North Shore Hospital, and in January, 1968, was begun in the Royal Hospital for Women, Paddington.

Total number of tests carried out since inception: 34,000.

Number of positive cases detected: 4 phenylketonuria and 2 atypical phenylketonuria.

Incidence of phenylketonuria: 1:5,667.

Consideration was given during the latter months of the year to the extension of the Guthrie Test to all hospitals in New South Wales with obstetric beds, but the proposal was not considered practical at present, and will be considered again in 1969.

All children for adoption have a Guthrie Test.

OTHER INBORN ERRORS OF METABOLISM

In addition to the cases of phenylketonuria which have been detected, numerous other cases of amino-aciduria imbalance have been noted, with particular emphasis being placed on cystine lysinuria and prolinuria. These cases are followed up by six monthly checks arranged through the local general practitioner, until such time as the abnormality ceases to exist or is no longer considered likely to be detrimental to the child's health and subsequent development. Urine tests are also arranged for the parents and other siblings in selected cases.

Mother Discussion Groups

Mother discussion groups were organized throughout the metropolitan area as in previous years by the New South Wales Mental Health Association. The mothers meet in groups of 10-15 in Baby Health Centres and are led by trained group leaders in such topics as child growth and development and child rearing. Difficulty has been experienced in some areas in starting groups because of the fee charged per session.

There were sixteen groups held in 1968 at the following locations:

Baulkham Hills	2	Lindfield	1
Beverly Hills	1	North Ryde	1
Chatswood	2	Old Toongabbie	1
Chester Hill	1	Padstow	2
Gladesville	1	Pennant Hills	2
Lane Cove	1	Seven Hills	1

Nursing Staff

Establishment	277
Employed at 31st December, 1968	267 4/5
Permanent Officers	146
Temporary Officers	93
Part-time Officers	55 = 28 4/5

The approved nursing staff establishment remains at 277. Full establishment has not been reached during the year. The 1967 level of recruitment is maintained, although it is less satisfactory mainly because of a decline in the number of applicants for Mothercraft Training under bond.

The number of permanent officers is decreasing and recruiting for country circuits is more difficult. One country circuit position is vacant. A service to the centres in this circuit is maintained on a restricted basis by a re-organization of adjoining circuits.

Appointments and Resignations during 1968

APPOINTMENTS

Permanent	20
Temporary	27
Part-time	3 = 1 3/5
Additional part-time units	2/5
Total	49

Bond Trainees enrolled in 1968—6.

RESIGNATIONS

Permanent	20	{ 7 retirement on age 1 transfer to A.N.I. position. 1 deceased.
Temporary	22	
Part-time officers—7	2 4/5	
Reduction in units	2/5	
Total	45 1/5	

In-Service Training

Two full-time, ten weeks courses in community nursing were held in 1968. Sixteen Baby Health Centre sisters successfully completed the programmes.

Details of Health District Secondment

					1st course	2nd course
Metropolitan .. .. .	..	..	..	..	2	4
Newcastle .. .. .	..	..	..	..	1	1
North Coast .. .. .	..	..	..	..	1	..
North Western .. .. .	..	..	..	..	1	1
Western .. .. .	..	..	..	..	1	..
Riverina .. .. .	..	..	..	..	1	1
South Coast .. .. .	..	..	..	..	1	1

Staff discussion groups for Baby Health Centre sisters were re-introduced in June. To improve communications between Departmental nurses working in the community, invitations to attend some of these groups were issued to Child Health and Psychiatric Community nurses.

Thirty-nine group meetings were held in eighteen centres.

Educational Conferences

Conferences are held in Child Health Centres for nurses from both Sections of the Bureau. Baby Health Centre sisters are released to attend when arrangements can be made without inconvenience to the mothers.

Child Health Centre				Conferences	Baby Health Centre sisters attending
Bexley .. .. .	..	..	..	1	4
Forest Lodge .. .. .	..	..	..	2	11
Ryde .. .. .	..	..	..	1	4
Yagoona .. .. .	..	..	..	6	19
Cabramatta .. .. .	..	..	..	2	7
Eastern Suburbs .. .. .	..	..	..	4	16

Training and Observation Visits to Baby Health Centres

Visits to centres were arranged at the request of various employing and training authorities.

Fifth year medical students and nurses participating in the In-Service Training programme, each do a case study for later presentation and discussion. The cases are arranged by the Sister-in-Charge of the selected centres in co-operation with mothers who are willing to attend the centre for this purpose.

Appreciation is recorded here, of the willingness of the large number of mothers who have given their time, to be available for these student training sessions.

STUDENT NURSE VISITS

Hospital				Number of groups
Marrickville District .. .. .	..	..	..	4
Camden District .. .. .	..	..	..	3
Balmain District .. .. .	..	..	..	2
Liverpool District .. .. .	..	..	..	3
Canterbury District .. .. .	..	..	..	3

MOTHERCRAFT STUDENTS

Two schools are held each year.

				February		August	
				Students	Centres	Students	Centres
Tresillian—Willoughby .. .. .	..	..	..	6	6	7	5
Tresillian—Vaucluse .. .. .	..	..	..	8	4	No longer taking short course students	
Tresillian—Petersham .. .. .	..	..	..	3	4		
Karitane .. .. .	..	..	..	8	8	10	8
St Anthonys .. .. .	..	..	..	4	4	13	7

MEDICAL STUDENT VISITS

Student groups attend in 4 terms. The visits spread over about 6 weeks. Each student interviews a mother.

January	..	..	..	..	..	..	9 groups—9 Centres—84 cases
March	..	..	..	..	..	..	5 groups—5 Centres—40 cases
June ..	..	..	..	..	..	..	5 groups—5 Centres—40 cases
August	..	..	..	..	..	..	5 groups—5 Centres—40 cases
Total cases							204

MISCELLANEOUS GROUP VISITS

Authority							Students	Centres involved
University of New South Wales Social Work Students							35	13
Sydney Kindergarten Union Training College							70	2
							(in 4 groups)	
Sydney Teachers College							12	1
Catholic Teachers Training College							50	2
Duke of Edinburgh Award Candidates—								
Merrylands High School							1 group	1
Hornsby High School							3 groups	1
Pauline Missionary Association							3	3
New South Wales College of Nursing							1	1

BUSH NURSING ASSOCIATION

Eleven nurses spent one day during an introduction training programme observing Maternal and Infant Care services.

Prince Henry Hospital University Training Programme

Students entering this programme visit Head Office and also visit a Baby Health Centre to learn about the services provided.

Programmes were arranged for the following:

- Student—Special Commonwealth African Assistance Plan.
- American—Kindergarten teacher student—observation visit.
- American—Nurse on exchange student programme.

Baby Health Centre inspections: Routine—83; Special—30.

Deputy Nurse Inspector—Visits to Health Districts

WESTERN HEALTH DISTRICT

To assist the Assistant Nurse Inspector to re-organize circuits within the Health District.

SOUTH COAST HEALTH DISTRICT

To assess nursing staff activities in relation to:

1. Hospital visiting in particular visiting children’s and isolation wards; and
2. To follow up children discharged with special attention to migrant mothers who need special guidance in nutrition and hygiene.

Publications

During 1968 a new edition of *Healthy Motherhood* with a new cover, was printed, and distribution of 100,000 copies was commenced to Baby Health Centres, hospitals, and to obstetricians and general practitioners in New South Wales. The new cover was adapted from a lithograph by the Danish artist Sekker Hansen, and permission was obtained from his widow for the use of the drawing.

The booklet, *Our Babies*, was revised and reprinted and 100,000 copies were made available for distribution.

No further prints of *Obstetric Practice in New South Wales* were required this year.

SECTION OF CHILD HEALTH

Assistant Director: J. R. F. BOGER, M.R.C.S., L.R.C.P., D.P.H., D.C.H.

Location: 86-88 George Street North, Sydney

Staff

- 12 Senior Medical Officers.
- 12 Teachers College Medical Officers.
- 2 Part-time Teachers College Medical Officers.
- 41 Medical Officers.
- 10 Psychiatrists.
- 3 Trainee Psychiatrists.
- 7 Sessional Psychiatrists.
- 22 Psychologists (not including one occupying a Psychiatrist's position).
- 1 Sessional Psychologist.
- 18 Social Workers.
- 23 Speech Therapists.
- 1 Part-time Speech Therapist.
- 8 Sessional Ear, Nose and Throat Specialists.
- 1 Sessional Ophthalmologist.
- 1 Senior Nursing Sister.
- 1 Nursing Sister-in-Charge In-Service Training.
- 84 Nursing Sisters.
- 1 Senior Clerk.
- 1 Second Officer.
- 1 Assistant Services Officer.
- 5 Shorthand Typists.
- 17 Office Assistants.
- 6 Part-time Office Assistants.
- 1 Switchboard Operator.

Policy and Progress

During the year a total of 208,315 pupils attending primary schools and high schools in the metropolitan area were fully examined or reviewed. In addition, the medical officers conducted 20,694 parent interviews, the nursing sisters conducted 16,905 follow-up interviews and made 9,477 home visits.

Medical officer appointments at the metropolitan child health centres totalled 8,107 and excluding the figures for the new centre operating at Cabramatta there was a comparative increase of approximately 400 appointments. The number of new cases for the year was 4,937.

The number of pre-school kindergartens receiving regular medical supervision increased from 86 to 112 and the number of pre-school children medically examined or reviewed increased from 3,692 to 4,936.

Well Baby Clinics were conducted regularly at the following Baby Health Centres: Auburn, Blacktown, Campsie, Dulwich Hill, Gladesville, Glebe, Granville, Manly, Newtown, Sutherland and Yagoona. A total of 1,852 babies, toddlers and pre-school children were assessed and of the 1,359 new cases, 759 were aged under 3 years and 600 were aged 3 years or over.

Five thousand eight hundred and sixty cases attended child guidance clinics in the metropolitan area and 3,486 were new cases. Attendances at the metropolitan speech therapy clinics were 23,273, an increase of 4,174. The hearing units (excluding the Cabramatta Unit, not yet in operation) investigated 5,237 cases and of the children investigated 7 were recommended for Opportunity Deaf Classes, one for Deaf School and 45 were recommended for hearing aids.

Diagnostic teams, from the Section of Child Health, consisting of a medical officer, clinical psychologist, social worker and speech therapist, paid visits to 7 country centres (Coff's Harbour, Cowra, Dubbo, Inverell, Lismore, Orange and Wagga Wagga), to assess atypical children nominated through the medical officer of health for special evaluation by their parents, family practitioner, school counsellor or school teacher. Each team remained in the area for a period of one week and a total of 346 children were assessed during the team's visit.

The examination of school children through the Shire Scheme in the Hornsby area was discontinued and the small schools previously examined under this system were incorporated in the Chatswood Child Health Centre. After nearly 5 years during which the Shire Scheme did not operate in the Camden area because no doctor was available, schools were examined there, and it is planned to reintroduce the scheme in the Campbelltown area at the commencement of the school term 1969.

The medical examination, including otometer testing in many cases, of all wards admitted to State Control or committed to the care of the Minister of Child Welfare and Social Welfare has been undertaken by the Section. In addition, it is proposed to introduce a wide-scale immunization programme for these children. A programme has already commenced at Royleston.

The Cabramatta Child Health Centre was officially opened on the 22nd February, 1968, by the Minister for Health, the Honourable A. H. Jago, M.L.A., and commenced to operate from March onwards. Construction has not commenced on the Manly-Warringah centre owing to a technical problem. However, plans are progressing for the future construction of centres at Blacktown, Sutherland and Wollongong. A suitable site is being given by Sutherland Shire Council.

The demand for services provided at child health centres has continued to grow and this has resulted in long waiting lists for child guidance and speech therapy at most centres. Through case conferences at the centre the medical staff, both medical officers and nursing sisters, are given additional in-service training. In this way, those cases which demand the services of the child guidance team are more easily recognized and the others managed without resort to the child guidance team.

An additional load has been taken on to assist the Department of Child Welfare and Social Welfare. Medical examination and immunization programmes at child welfare homes formerly conducted by local medical practitioners are now managed by Bureau medical staff.

Medical Examinations of School Children

TABLE I

New South Wales	1966	1967	1968
School Population	908,880	947,552	976,859
Number of Pupils fully examined ..	101,053	110,945	113,824

The above figures do not include examinations in Secondary Schools. Figures for these are shown in table V and in the reports of the Medical Officers of Health.

TABLE II—NUMBER OF PUPILS IN PRIMARY SCHOOLS IN THE METROPOLITAN AREA, REMAINDER OF STATE AND NEW SOUTH WALES, WHO WERE FULLY EXAMINED OR WHOSE CASES WERE REVIEWED, 1968

	Metropolitan Area	Remainder of State	N.S.W.
(a) <i>Full examinations</i>			
Kindergarten	30,434	20,105	50,539
Grade 1	13,209	10,238	23,447
Grade 2	7,654	5,750	13,404
Total—including all grades	63,895	49,929	113,824
(b) <i>Review examinations</i>			
Grade 4	30,315	14,710	45,025
Total—including all grades	73,963	38,525	112,488
Grand total	137,858	88,454	226,312

TABLE III—NUMBER OF PUPILS WHO WERE FULLY EXAMINED OR WHOSE CASES WERE REVIEWED IN PRIMARY SCHOOLS AND SCHOOL POPULATIONS IN THE METROPOLITAN AREA, IN THE REMAINDER OF STATE AND NEW SOUTH WALES, 1968

Primary schools	Metropolitan Area		Remainder of State		New South Wales	
		Percentage		Percentage		Percentage
Population—						
Departmental	282,250	..	221,414	..	503,664	..
Non-departmental	82,960	..	60,444	..	143,404	..
Total	365,210	..	281,858	..	647,068	..
Examinations—						
Full	63,895	17.44	49,929	17.71	113,824	17.2
Review	73,963	20.20	38,525	13.66	112,488	17.07

TABLE IV—DEFECTS OF NOTIFIABLE STANDARD FOUND IN PRIMARY SCHOOL PUPILS FULLY EXAMINED IN NEW SOUTH WALES, 1968, EXPRESSED AS A PERCENTAGE

	Primary Schools	
	Boys 58,539	Girls 55,285
Number examined		
Defects—		
Vision*	5.24	5.99
Number with glasses	0.67	0.91
Squint	1.24	1.45
Hearing	3.02	2.66
Nose and Throat	2.13	2.19
Teeth	4.81	4.39
Skin	2.97	3.12
Thyroid	0.07	0.80
Heart and Circulation	0.70	0.67
Asthma	2.94	1.83
Other lung defects	5.37	4.31
Development (Hernia)	0.71	0.28
Orthopaedic	1.79	1.37
Nervous System	0.48	0.39
Psychological	1.79	1.02
Speech	1.55	0.65

* Includes with and without glasses.

Office of the Assistant Director

During 1968, a total of 41,380 pupils attending primary schools and high schools, not included in child health centre areas within the metropolitan area, were fully examined or reviewed. In addition, the medical officers carried out 3,416 parent interviews, nursing sisters carried out 4,103 follow-up interviews and 3,588 home visits.

Special medical examinations were arranged at the request of the Department of Child Welfare and Social Welfare, the Aborigines' Welfare Board, the Far West Children's Health Scheme and the Big Brother Movement (British Youth Migration), and a total of 260 full examinations were carried out. In addition, arrangements were made for special cases in the Manly-Warringah area to be assessed at Brookvale Public School, Balgowlah Heights Public School, Avalon Baby Health Centre and Manly Baby Health Centre. At these centres, 109 new cases were fully examined and 255 reviewed. A parent interview was carried out in all cases and a consultation with the child's teacher or school counsellor. Of the number assessed, 3 were referred for medical treatment, 15 to child guidance, 10 to the Division of Guidance and Adjustment, 2 to speech clinics and 8 to hearing units or the Commonwealth Acoustic Laboratory. A similar service has commenced at Blacktown Baby Health Centre. To date 37 cases have been assessed and 7 children have been referred to child guidance clinics.

Throughout the year regular visits were made to homes and schools for atypical children which are not included in metropolitan child health centre areas. These schools are under the auspices of the Department of Education, Department of Child Welfare and Social Welfare, Subnormal Children's Welfare Association and the Society for Crippled Children. During 1968, 1,254 full examinations and 56 review examinations were carried out and 185 defects were notified.

The number of pre-school kindergartens medically supervised increased from 20 to 26. A total of 1,519 full examinations and review examinations were carried out, an increase of approximately 500 pre-school examinations for the year. Three Well Baby Clinics were conducted by the medical officers at Blacktown, Sutherland and Manly Baby Health centres. Three hundred and ninety-eight new cases were seen and 293 cases were reviewed. Of the new cases, 262 were aged under 3 years and 136 cases were aged 3 years and over. The defects notified numbered 262.

The Hearing Unit continued to operate during the year, and 151 sessions were conducted by 3 sessional ear, nose and throat specialists. A total of 1,027 investigations were carried out and these were referred by paediatricians, general practitioners, Bureau medical officers, speech therapists, the Division of Guidance and Adjustment, Department of Education, Department of Child Welfare and Social Welfare and parents. No treatment is carried out at the unit, it is purely diagnostic and advisory. Children who would benefit from the use of a hearing aid are referred to the Commonwealth Acoustic Laboratory. During 1968, 20 children were recommended for hearing aids, one was recommended for Opportunity Deaf class and one for Deaf School.

A Counsellor for the deaf is also available for the consideration of educational problems associated with deafness.

The child guidance clinics at "Yasmar", Brisbane Street and "Minda" operated successfully throughout the year. The "Yasmar" clinic continued as a specialized unit for the diagnosis of delinquent boys referred by the Children's Court Magistrates. One of the main purposes of this clinic is to recommend suitable placement for each offender and to offer advice and counselling to both parents and the child on the problems which directly relate to the court appearance and make appropriate recommendations for any further investigations or treatment. During the year a total of 1,578 new cases were investigated at the three clinics.

The speech clinics at Beauty Point, Glenfield and Head Office, had 2,033 attendances in 1968. The system of a dual interview being carried out in certain clinics by speech therapist and doctor at initial assessment continued to function successfully.

In addition, arrangements were made for children in the Manly-Warringah area to have the initial interview at Beauty Point School instead of travelling to Head Office.

One hundred and five full examinations were carried out at Beauty Point Infants' School and a parent interview was carried out in each case.

Three Opportunity "L" classes were established at Ryde, Hurstville and Daceyville Infants' Schools and a speech therapist is in attendance one day per week.

Close liaison was maintained with the pre-school teachers and school teachers of children attending the clinics and advice was given on the management of the speech defect or language problem in the school situation.

The Asthma Clinic continued its work, and the total number of appointments for consultation with children already under treatment numbered 263, and of these 221 appointments were kept. The initial appointments totalled 27; of these, 24 were kept and 9 children subsequently undertook treatment. The general survey of results of treatment continued, and was completed for those children who undertook treatment in 1966.

The results obtained in this survey of 35 children were as follows:

Twenty-two children remained under treatment for a period of two years or more.

Nine discontinued within three months to two years, and four discontinued within three months.

Of the twenty-two children who remained under treatment, 59.09 per cent recorded excellent or very much improved; 18.18 per cent recorded much improved, and 22.73 per cent had improved.

The nursing sisters carried out special follow-up work in the Manly-Warringah, Sutherland and Blacktown areas. The work is highly specialized and is mainly concerned with the follow-up of children with emotional or physical health problems. Close liaison is maintained with schools, the Department of Child Welfare and Social Welfare, the Housing Commission, the Red Cross, religious, charitable and other organizations. During the year, 4,103 children were interviewed during follow-up work in the schools and 2,508 home visits were made. In addition, 157 special parent interviews were carried out, 1,080 special interviews were carried out with educational authorities, welfare officers, religious organizations and 76 escorting visits were made with children to hospitals or clinics. During the latter half of the year a nursing sister commenced the screening of vision and hearing of children in Child Welfare Department homes and in several pre-school kindergartens. The service commenced at Bidura and Royleston in June and extended to Corelli, Montrose, Winbin, Myee, Thornbury Lodge, Raith and Larkhill by mid-October.

Six hundred and ninety-nine children were screened in the Homes and 119 in pre-school kindergartens. Of these 21 were referred for treatment, 13 were referred to a hearing unit or Commonwealth Acoustic Laboratory and 5 children were provided with hearing aids.

Four nursing sisters supervise the health of the children attending the National Fitness Camps conducted by the Physical Education Branch of the Department of Education at Myuna Bay, Point Wolstonecroft, Broken Bay and Narrabeen. These sisters are responsible for the supervision of the camp hygiene and are required to attend to all cases of injury and illness. In addition, instruction is given to the children on first-aid and other topics related to health and health education.

Further details given in tables V to XXII.

Child Health Centres

BEXLEY CHILD HEALTH CENTRE

Routine medical inspections were carried out in all the schools with the exception of one departmental school which was deferred from the programme owing to a shortage of accommodation resulting from building renovations at the school. In addition, 5 special schools or units received regular visits throughout the year and the 261 children enrolled received special medical supervision.

The number of pre-school kindergartens visited increased from 7 to 11 this year, and 466 full examinations and 102 review examinations were carried out. During 1968 the number of medical officer appointments at the Child Health centre totalled 859. The Hearing Unit investigated 561 cases and the total case load of the Child Guidance Clinic was 272. Three speech clinics continued to operate throughout the year and there were 3,369 individual attendances. Lectures were given to Mothers' Clubs, Parents' and Citizens' Associations and to pre-school parents' groups.

The weekly case conference was continued throughout 1968. Trainee Teacher groups and Trainee School Counsellor groups also visited the centre, and talks were given to them by the centre staff.

A diagnostic team, comprising the Medical Officer-in-Charge, a psychologist and social worker, visited Wagga Wagga in September to evaluate 54 specially referred children.

Details of the work carried out for the year are given in tables V to XXII.

CABRAMATTA CHILD HEALTH CENTRE

Cabramatta Child Health Centre was officially opened on the 22nd February, 1968, by the Minister for Health, the Honourable A. H. Jago, M.L.A.

The Centre serves a large area with a school population of 57,000, and as many of the schools had not been visited for periods of up to five years the number of schools completed for this year was less than can be expected in the future, owing to the increased number of full examinations in Infants Departments and to many more teacher and parent requests.

However, close liaison was kept with the schools not examined and special referrals from Principals or parents were seen at the centre.

Five of the seven special schools were visited during the year, and the remaining two will be examined in first term.

Two pre-school kindergartens were included in the programme this year, and 88 examinations were carried out.

The number of medical officer appointments at the centre totalled 706 from March to December.

The Hearing Unit has not yet been established, but 168 audiometric evaluations were carried out during the year and those children with abnormal audiogrammes were referred to the appropriate agencies for further investigation or treatment.

The Child Guidance Clinic functioned without the services of a Psychiatrist, and assistance was given by the Psychiatrist at Bexley Child Health Centre for one emergency. The total case load for the year was 123.

The Speech Therapy Clinic operated under a difficulty due to staff shortage and there were 1,229 attendances.

For details of the work at the centre see tables V to XXII.

CHATSWOOD CHILD HEALTH CENTRE

During 1968 the number of schools examined in the centre area increased by ten and all were completed.

Twelve Special Schools or Units were medically supervised during the year, including two Schools for the Blind and one for Autistic children.

The number of pre-school kindergartens visited increased from 15 to 18 and 872 full examinations and 47 review examinations were carried out. In addition, 108 parents of pre-school children were interviewed.

The number of medical officer appointments at the child health centre was increased from 1,237 to 1,308 of which 772 were new cases.

The Hearing Unit conducted 92 sessions and 601 children were investigated.

The individual attendances of the three Speech Therapy Clinics increased from 1,783 to 2,764.

The total case load of the Child Guidance Clinic was 687 and included 288 new cases.

The nursing sisters made 774 home visits and, in addition, 18 children were taken to hospitals or clinics for immunization or treatment. Talks were given at the centre to groups of students, Mothers' Clubs, Parents and Citizens' Associations and other organizations.

In August a diagnostic team of Senior Medical Officer, Psychologist, Social Worker and Speech Therapist visited Coff's Harbour for one week to assess 54 children referred by the Education Department or medical practitioners in the area.

Groups of senior medical students attended weekly at the child guidance clinic and two social workers in training were supervised. In addition, two of the social workers represented the centre at several conferences and seminars with community agencies in the area.

Details of centre work in tables V to XXII.

EASTERN SUBURBS CHILD HEALTH CENTRE

The centre continued to function smoothly during 1968 and routine medical inspections were carried out in all schools with the exception of one which was deferred until 1969 for the convenience of the school.

Eleven special schools and units were also supervised, including several Child Welfare establishments and intellectually handicapped children.

The number of pre-school kindergartens increased from 12 to 14, and 413 full examinations and 41 review examinations were carried out.

The medical officer appointments at the centre increased to 793 and of these 484 were new cases.

The number of sessions conducted at the Hearing Unit increased from 66 to 87 and 512 cases were investigated.

At the child guidance clinic the total case load was 378 and attendances at the speech therapy clinic were 2,449.

A course of lectures on Child Health was given during the first term to an audience of principals and teachers of primary schools who had voluntarily elected to attend this in-service training programme.

A group of students from Vocational Guidance and a number of post-graduate overseas visitors visited the centre to observe the facilities available.

Regular conferences were held throughout the year and sisters from Baby Health Centres in the area attended whenever possible.

An Obesity Clinic conducted on a fortnightly basis in co-operation with the Nutrition Section commenced in May, 1968. Children may be referred to this clinic by the school doctor, school nursing sister or by the family practitioner. During the seven months of operation 18 children were referred aged from 6 to 13 years and 44 interviews were carried out.

A diagnostic team visited Dubbo for the assessment of 66 children referred by the Education Department or medical practitioners in the area.

Details of the work carried out at the centre is given in tables V to XXII.

FOREST LODGE CHILD HEALTH CENTRE

The total school population increased by 1,000 during 1968, and four schools were not examined in the area. Assistance was given by the Bexley Child Health Centre in examining one school.

Thirteen Special Schools or Units were supervised throughout the year. Four new O.A. classes were established in the area. The enrolment of the Bridge Road School for Specific Purposes had increased to 20 and more clinic time is being allocated to this school.

Three Well Baby Clinics were conducted by the medical officers in the Baby Health Centres at Dulwich Hill, Glebe and Newtown. Two hundred and twenty-six children were fully examined or reviewed and 70 defects were notified.

The number of pre-school kindergartens increased from 12 to 18, and 493 children were fully examined or reviewed. Sixty-five defects required notification.

Medical Officer appointments at the centre increased from 761 to 864 and 538 new cases were assessed.

At the Hearing Unit a total of 540 children were investigated, including 246 new cases.

The total case load at the Child Guidance Clinic was 486, and of these 260 were new cases. The evening Child Guidance Clinics continued to operate and 185 sessions were conducted.

At the Speech Therapy Clinic there were 1,133 attendances.

From August, for the first time, the centre undertook the routine examination of children admitted to the Child Welfare depots, Royleston and Bidura. At Royleston, 120 children were fully examined and at Bidura 232 were fully examined and 2 children were reviewed. In addition, an immunization programme was undertaken at Royleston following an outbreak of Diphtheria. This programme included 110 Schick Tests, 32 Moloney Tests and 46 injections of C.D.T.

Special examinations totalling 142 were also carried out on "Little Brothers" sponsored by the Big Brother Movement.

A Diagnostic Team visited Inverell during the year and 49 individual children were evaluated.

The staff participated in the In-Service training course for nurses and students from Balmain Teachers College and Mothercraft Training Schools. Interstate and overseas visitors visited the centre to observe the functions of the service.

Social work students from the University of Sydney and the University of New South Wales were also supervised during their period of training.

Details of work carried out given in tables V to XXII.

PARRAMATTA CHILD HEALTH CENTRE

The total school population remained almost the same as for 1967, in spite of two schools being transferred to Cabramatta Child Health Centre at the beginning of the year. However, 15 primary schools were not examined this year owing to the shortage of one medical officer for one month during the school year and the increased amount of medical officer time spent at the centre to cope with parent counselling.

Although there were less full examinations carried out in the schools during 1968, the total number of review examinations in schools increased owing to the large number of teacher referrals. Medical officer appointments at the centre increased from 1,197 to 1,336. There was also an increased number of review appointments due to the doctors undertaking additional counselling.

Four Special Schools and Units were supervised, including two units for partially sighted children.

At the beginning of the year a scheme was introduced to examine all new entrants to Hassall Street School for Specific Purposes at the the Child Health Centre.

The children were accompanied by their parents so that a full medical background could be elucidated. This procedure proved so satisfactory, both from the medical aspect and to the Department of Education, that the scheme is to be extended in 1969 to include all children entering Opportunity "A" classes in the area. In addition, the medical examination of children admitted to deaf schools and Opportunity "D" classes in the area was initiated.

Two Well Baby Clinics were conducted by the medical officers at Auburn and Granville Baby Health Centres. Four hundred and thirty-five full examinations and reviews were carried out and 116 defects were notified.

Seven pre-school kindergartens were medically supervised, 249 full examinations and 34 review examinations were carried out and 48 defects were notified.

At the Hearing Unit 850 children were investigated, including 274 new cases.

Two hundred and fifty-two new cases were assessed at the Child Guidance Clinic, the total case load being 463.

At the Speech Therapy Clinic attendances increased from 2,297 to 3,223.

Special examinations were also carried out on 32 "Little Brothers" sponsored by the Big Brother Movement.

The nursing sisters were involved more in specific centre duties this year, and it is planned to extend to further fields of work during 1969. One nursing sister is now carrying out specific home visits for the psychiatrist and another has commenced special school visits for the speech therapists.

Two addresses were given at the offices of the Department of Education to teachers of Opportunity "A" classes on the medical aspects of slow learners and the speech problems in these children.

A diagnostic team visited Orange during third term. Twenty-seven new cases kept appointments, and these were referred by the Department of Education, a private school and general practitioners.

Details of the work at the centre during the year is shown in tables V to XXII.

RYDE CHILD HEALTH CENTRE

The school population in the Ryde Child Health Centre area increased to 54,511 and 89 of the 94 schools in the area were medically examined. For the last five months of the year the centre was short staffed by one medical officer, and another medical officer was away sick for two months.

Seventeen special schools and units with a total enrolment of 815 were medically supervised, including 2 Child Welfare Department Homes, 2 Schools for Deaf children, 1 School for the Blind and 1 Deaf-Blind Unit.

A Well Baby Clinic was conducted at Gladesville Baby Health Centre, and relieving duties were carried out at the Epping Well Baby Clinic for several weeks. Two hundred and forty-three children were fully examined or reviewed and 83 defects were notified.

The number of pre-school kindergartens increased from 8 to 11, and 437 full examinations and 30 review examinations were carried out. Twenty-nine defects were notified.

The number of medical officer appointments at the centre increased from 1,064 to 1,193 and of these 706 were new cases.

The total number of cases investigated at the Hearing Unit increased from 442 to 532.

The total case load at the Child Guidance Clinic was 409 and of these 253 were new cases.

Attendances at the Speech Therapy Clinic were 2,470.

A Diagnostic Team visited Lismore for the evaluation of atypical children in the area. During the visit, 38 children were assessed.

An in-service training course for teachers was held during the first school term, and it mainly consisted of discussion groups instead of formal lectures. The Health Education Tutor at North Ryde Psychiatric Centre also assisted and participated in this course. Throughout the year lectures were given to Mothers' Clubs, Parents and Citizens' Associations, Child Welfare Trainee officers, teachers of the mentally handicapped, mothercraft nurses and private organizations. In addition, a television interview was arranged to discuss the work of the Child Health Centre. The Medical Officer-in-Charge also actively participated in local community affairs, and acted as Chairman of the Ryde Municipality Committee (Tarban Project).

Due to technical difficulties the extension to the centre was not completed this year. It will be started early next year, and will house additional consulting rooms, a play-room, for therapeutic purposes, and a health education unit.

Further details given in tables V to XXII.

YAGOONA CHILD HEALTH CENTRE

The school population of the area increased to 49,125 in 1968 and 12 schools were not examined. This was due in part to one medical officer being on prolonged sick leave and due to an increase in the number of full examinations required in the primary schools.

The number of Special Schools and Units supervised increased from 10 to 13, and included 4 Special Schools for retarded children which were visited 3 times each during the year.

Two Well Baby Clinics were conducted by the medical officers at Yagoona and Campsie Baby Health Centres, and 234 full examinations and 33 review examinations were carried out. One hundred and eighteen defects were notified.

The number of pre-school kindergartens increased from 2 to 5, and 132 full examinations and 13 review examinations were carried out. Thirty-one defects were notified.

Medical officer appointments at the centre numbered 1,048, and included 667 new cases.

The Hearing Units investigated 614 children and of these 244 were new cases. In addition, Audiometric and Vision testing were also carried out at the request of local medical practitioners.

Two hundred and fifty-nine new cases were referred to the Child Guidance Clinic. The total case load for the year was 481.

The two Speech Therapy Clinics continued to operate and there were 3,387 individual attendances.

Follow-up visits were made by speech therapists to the retarded schools where speech programmes were initiated last year. Special attention was directed towards asphasic and dysphasic children in preparation for the opening of an asphasic unit in the area in the new year.

A diagnostic team visited Cowra at the beginning of third term. A survey was carried out on 58 atypical children in the area, and, after evaluation, suitable recommendations were made for their future management.

A visit was also made to the local retarded school and to the primary school in Cowra.

In addition, a seminar, consisting of a talk on atypical children, followed by a panel discussion was held for teachers and Education Department officers of the area.

The team also attended the Rotary Club at Cowra and a talk was given on the emotionally disturbed child. A talk on mental retardation was also given to the Apex Club.

Training of the centre staff in the field of preventative mental health has continued at weekly case conferences. Baby Health Centre sisters have attended these meetings frequently.

Forty-two lectures were given throughout the year to various parent and civic groups in the area, and it included in-service training courses for Child Welfare officers and for teachers in the Bankstown Directorate.

For full details of work carried out see tables V to XXII.

“Minda” Remand Centre

During the year 1,784 examinations were carried out on adolescents admitted to “Minda”. Of these 1,615 were first admissions and of the remainder 156 were admitted twice and 13 were admitted on three or more occasions.

Seven hundred and twenty-two girls were investigated for venereal disease and, as a result, 80 cases of gonorrhoea were confirmed from 921 investigations. The extra investigations resulted from second and subsequent admissions and the final clearances of girls who had had treatment. The relative incidence of gonorrhoea was 11 per cent and the age range of those infected was 12 years to 17 years. In addition, there were 47 pregnancies and 2 cases of pseudocyesis.

The Cancer Detection Survey continued and 650 Papanicolaou smears were carried out on those who had been committed, remanded under section 133 of the Child Welfare Act, or charged with exposure to moral danger.

The findings showed that 343 smears were normal, 292 were classified as “atypical benign” and 15 showed mild dysplasia.

Permission was granted for colposcopic examinations to be carried out at the same time as the bacteriological investigations. The rationale for initiating this test was the hypothesis that a history of promiscuity in early years may be a predisposing factor towards the occurrence of cervical carcinoma in later years. The test is painless and not compulsory and few decline to have it carried out. The procedure and reason for the investigation is explained individually to each girl and the parents or guardian is notified if any abnormality is detected.

Two hundred and twenty colposcopic examinations were carried out and 100 atypical cervixes resulted; an incidence of 45 per cent. Follow-up Papanicolaou smears were carried out on 63 of those showing atypical cervixes and 4 were classified as mild dysplasia.

Metropolitan Boys’ Shelter and Yasmar Hostel

During the year a total of 1,546 full examinations were carried out on the boys admitted to the above institutions.

One hundred and six defects of notifiable standard were detected in the 699 examinations carried out at the Metropolitan Boys’ Shelter, and at Yasmar Hostel 120 notifiable defects were detected in 847 examinations—a defect ratio of 1:6 boys at the Shelter and 1:7 at the Hostel.

Teacher Training Colleges

Nineteen sixty-eight has been a year of progress in Health Education throughout New South Wales with the introduction of Health Education into over 100 Secondary Schools.

The medical officers working in Teacher Training Colleges at Sydney, Alexander Mackie, Balmain, Orange Grove, Armidale, Bathurst, Newcastle, Wagga Wagga and Wollongong have continued their work in Health Education in addition to supervising the health of 8,772 students.

During the year 4,467 students and staff received emergency first-aid, 591 students were counselled, 292 were examined for fitness to resume studies and a total of 2,803 outgoing students were medically examined for superannuation benefits, with assistance from the Medical Examination Centre, medical officers of the Section of Child Health and the Medical Officers of Health at Newcastle and Wollongong.

At Sydney Teachers College, in addition to courses of lectures to meet the special needs of different student groups, one semester of lectures on tropical medicine was given to “Asopa” students and those proposing to teach in tropical countries, and advanced courses of lectures were given to graduate students undertaking Health Education as a second teaching method and to students in the new Health Education Certificate Course.

The medical officers contributed to four strands of the latter course in general health education, growth and development, human histology and pathology and history of health practices. Medical officers also participated in the Post College Course at Sydney Teachers College during the Christmas school vacation, and a paper was presented by the medical officer at Balmain Teachers College.

A successful conference for Teachers College medical officers was held during February. It was formally opened by the Under Secretary, and addresses were given by the Director General of Public Health and the Director of Teacher Training. It was also attended by many Departmental medical officers and several officers from the Division of Health Education. Papers were presented at the conference by the Director of Health Education, a Health Education officer, the Senior Medical Officer, Sydney Teachers College, and by the medical officers at Alexander Mackie, Balmain and Wollongong Teachers Colleges.

Three medical officers represented the New South Wales Teacher Training Colleges at the Australian New Zealand Student Health Association’s Conference in Melbourne during 1968.

Further details of work carried out in Teacher Training Colleges in table XXIV and table XXV.

TABLE V—EXAMINATIONS IN PRIMARY SCHOOLS AND HIGH SCHOOLS OFFICE OF THE ASSISTANT DIRECTOR AND CHILD HEALTH CENTRES—METROPOLITAN AREA

	Office of Assistant Director—Black- town, Sutherland, Manly-Warringah	Bexley	Cabramatta	Chatswood	Eastern Suburbs	Forest Lodge	Parramatta	Ryde	Yagoona	Total
Primary Schools—										
Full examinations by medical officers	12,109	4,903	7,979	7,208	6,886	6,603	5,726	4,828	7,653	63,895
Review examinations by medical officers and nurses (all grades including 4th grade) ..	13,263	7,926	4,654	8,902	9,277	7,659	7,630	8,450	6,202	73,963
Review examinations—4th grade only (mainly conducted by nurses)	5,912	3,460	1,799	4,270	3,009	2,776	2,980	3,436	2,673	30,315
Total	25,372	12,829	12,633	16,110	16,163	14,262	13,356	13,278	13,855	137,858
High Schools—										
Review examinations—										
not referred to medical officer	13,694	6,706	1,553	7,100	5,975	5,447	5,495	8,643	6,716	61,329
referred to medical officer	2,314	752	352	348	1,913	1,505	608	954	382	9,128
Total	16,008	7,458	1,905	7,448	7,888	6,952	6,103	9,597	7,098	70,457
Interviews—										
Number of parent interviews (medical officer) ..	3,416	1,592	1,939	955	2,446	2,579	2,547	1,740	3,480	20,694
Follow up interviews (nurses)	4,103	858	2,213	1,048	1,930	1,732	656	2,321	2,044	16,905
Home Visits, Special Home Visits and Interviews (Nurses)	3,588	328	898	774	431	933	685	1,274	566	9,477

TABLE VI—SCHOOL STATISTICS—CHILD HEALTH CENTRES METROPOLITAN

		Bexley	Cabramatta	Chatswood	Eastern Suburbs	Forest Lodge	Parramatta	Ryde	Yagoona	Grand Total
Number of Schools (Primary and High Schools)—										
Departmental	.. ..	52	70	85	51	64	56	56	55	489
Catholic	.. ..	20	18	32	48	33	29	32	21	233
Other	.. ..	2	9	10	14	2	4	6	9	56
Total	.. ..	74	97	127	113	99	89	94	85	778
Number of Schools Examined		73	41	127	112	95	74	89	77	688
School Population—										
Departmental	.. ..	31,960	48,656	42,762	28,555	29,653	34,406	37,345	38,037	291,374
Catholic	.. ..	9,093	8,046	12,627	14,215	11,348	12,751	16,137	10,461	94,678
Other	.. ..	219	341	3,349	5,815	1,668	289	1,029	627	13,337
Total	.. ..	41,272	57,043	58,738	48,585	42,669	47,446	54,511	49,125	399,389
Number of Children Examined—										
Primary School	.. ..	12,829	12,633	16,110	16,163	14,262	13,356	13,278	13,855	112,486
High School	.. ..	7,458	1,905	7,448	7,888	6,952	6,103	9,597	7,098	54,449
Total	.. ..	20,287	14,538	23,558	24,051	21,214	19,459	22,875	20,953	166,935

TABLE VII—NOTIFIED DEFECTS—HIGH SCHOOL EXAMINATIONS—OFFICE OF THE ASSISTANT DIRECTOR—CHILD HEALTH CENTRES METROPOLITAN AREA

	Office of Asst/Director		Bexley		Cabramatta		Chatswood		Eastern Suburbs		Forest Lodge		Parramatta		Ryde		Yagoona	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Total number notified	1,521	304	212	248	521	402	280	530	230									
Total number examined	16,008	7,458	1,905	7,448	7,888	6,952	6,103	9,597	7,098									
Defect	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Vision	356	393	111	121	51	103	94	118	208	166	93	129	111	105	159	98	68	74
Hearing	161	117	27	39	3	6	15	15	66	29	65	34	18	17	66	32	34	13
Nose and Throat	2	4	..	..	..	9	1	1	..	1	..	..	..	..	..	..	..	1
Teeth	71	61	..	..	5	9	..	..	8	..	10	14	..	..	42	22	4	7
Infestation	3	18	..	4	1	3	..	..	..	..	..	5	1	3	1	2	..	10
Skin	31	34	1	..	3	3	..	1	7	..	5	8	1	1	5	3	1	5
Thyroid	7	17	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Heart and Circulation	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Lungs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	1
Development	34	62	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..
Orthopaedic	11	6	..	..	1	1	..	..	..	3	..	..	..	..	3	..	..	..
Nervous System	..	..	..	..	1	1	..	..	2	..	..	..	..	..	..	..	..	..
Nocturnal Enuresis	..	26	..	..	3	1	..	..	2	1	..	2	..	1	26	11	1	3
Psychological	43	5	..	..	3	2	..	..	4	..	..	..	8	..	..	..	..	..
Speech	5	26	1	..	3	1	..	..	15	8	..	29	3	1	9	4	4	5
Other	28	26	..	..	3	1	..	..	..	..	7	..	8	..	24	21	..	..

TABLE VIII—STATISTICS RELATING TO MEDICAL OFFICER APPOINTMENTS—CHILD HEALTH CENTRES—METROPOLITAN AREA

	Bexley	Cabramatta	Chatswood	Eastern Suburbs	Forest Lodge	Parramatta	Ryde	Yagoona	Total
New Cases	551	603	772	484	538	616	706	667	4,937
Review Cases	308	103	536	309	326	720	487	381	3,170
Total	859	706	1,308	793	864	1,336	1,193	1,048	8,107

REFERRING AGENCIES OF NEW CASES

	Bexley	Cabramatta	Chatswood	Eastern Suburbs	Forest Lodge	Parramatta	Ryde	Yagoona	Total
Parent application	334	218	512	206	134	312	277	271	2,264
Family Physician or Specialist	46	63	55	16	44	137	64	60	485
Department of Education	79	161	87	132	195	103	215	136	1,108
Department of Child Welfare and Social Welfare	6	40	4	9	14	7	5	25	110
Social Agency	2	11	2	4	12	12	3	11	57
Hospital	2	3	3	8	10	..	3	7	36
Bureau Officer	82	94	104	108	117	43	133	122	803
Other Agencies	..	13	5	1	12	2	6	35	74

TABLE IX—AN ANALYSIS OF THE REASONS FOR REFERRAL OF NEW CASES TO CHILD HEALTH CENTRES—METROPOLITAN AREA—BY SCHOOL AGE GROUPS EXPRESSED AS % OF THE TOTAL

Reason for Referral	Bexley		Cabramatta		Chatswood	Eastern Suburbs		Forest Lodge		Parramatta		Ryde		Yagoona		
	Boys	Girls	Boys	Girls		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls			
Pre-School— Physical Defects .. Emotional Problems .. Mental Retardation .. Educational Problems .. Speech Disorders .. Other and Nocturnal Enuresis .. Mixed Problems ..	0.91	0.18	0.8	1.0	Separate details not available for Pre-School, Infants, Primary and High School.	.42	.20	.74	.19	0.6	0.6	2.5	.7	1.5	0.7	
	3.45	2.54	0.2	0.7		3.37	1.05	6.69	4.09	2.9	3.1	2.9	2.5	3.5	3.0	
	0.36	0.91	0.7	0.7		.65	.20	.37	.19	0.4	0.6	.42	.14	0.6	..	
	..	..	..	..		..	..	..	.74	3.7	0.9	..	.56	0.4	..
	3.27	1.09	0.2	0.2		.65	.20	3.72	.19	..	..	2.5	.42	3.0	1.0
	0.54	..	0.2	0.5		.20	.20	.19	..	1.8	0.3	.14	.42	..	..
	..	..	1.3	1.3		..	.20	..	..	..	..	.42	.28	0.1	..
Total	8.53	4.72	3.4	4.4		5.29	2.05	11.71	5.4	9.4	5.5	8.88	4.6	9.1	4.7	
Infants' School— Physical Defects .. Emotional Problems .. Mental Retardation .. Educational Problems .. Speech Disorders .. Other and Nocturnal Enuresis .. Mixed Problems ..	3.81	2.54	3.0	2.0	All Grades: 19.34 53.62 1.56 14.79 3.65 4.12 2.82	2.73	2.73	2.6	.74	1.9	1.6	1.4	.42	2.5	1.3	
	11.80	4.54	12.0	7.0		15.59	6.73	10.59	4.27	10.7	5.8	8.0	5.5	10.4	5.0	
	1.08	0.72	1.0	0.5		.84	.42	2.42	.93	0.9	0.9	.56	.56	1.5	0.3	
	6.72	1.82	3.0	0.3		3.57	1.26	1.30	.74	4.5	0.5	5.3	1.2	3.0	0.8	
	3.81	1.63	1.5	0.3		3.19	1.95	3.72	1.86	2.5	1.5	4.1	1.5	8.0	2.1	
	0.91	0.91	0.5	0.3		.42	.83	.56	.19	0.2	..	1.5	.99	0.8	0.3	
	0.81	0.36	8.6	2.7		3.57	1.46	.74	.19	5.4	1.9	4.6	..	0.5	0.5	
Total	28.94	12.52	29.6	13.1		29.91	15.38	21.93	8.92	26.1	12.2	25.46	10.17	26.7	10.3	
Primary School— Physical Defect .. Emotional Problems .. Mental Retardation .. Educational Problems .. Speech Disorders .. Other and Nocturnal Enuresis .. Mixed Problems ..	2.72	2.54	2.5	2.3	Separate details not available for Pre-School, Infants, Primary and High School.	1.69	2.34	2.23	1.12	2.6	1.3	.42	.99	2.3	2.0	
	11.25	4.90	12.0	3.0		12.0	6.0	8.36	4.65	11.5	4.4	6.3	11.1	6.3	10.3	5.0
	0.55	0.18	0.7	0.7		..	.84	.93	.19	2.2	1.3	.7	.42	2.0	1.0	
	6.90	2.91	2.5	0.5		4.68	1.95	4.83	1.12	2.5	0.9	8.2	2.2	3.0	1.5	
	2.00	0.18	1.0	..		1.26	.42	3.72	1.86	0.9	0.3	.99	.28	2.5	1.0	
	0.36	0.18	0.8	0.8		.83	.65	.74	.37	0.3	0.2	1.1	.28	0.8	0.5	
	..	0.18	6.8	2.3		4.75	.20	1.67	.93	4.4	0.6	2.8	1.1	0.7	0.6	
Total	23.78	11.07	26.3	9.6		25.21	12.4	22.48	10.24	24.4	9.0	25.31	11.57	21.6	11.6	
High School— Physical Defect .. Emotional Problems .. Mental Retardation .. Educational Problems .. Speech Disorders .. Other and Nocturnal Enuresis .. Mixed Problems ..	0.18	0.18	0.7	0.5	See previous table.	.42	.42	1.11	2.7	1.5	0.8	.14	.14	1.0	0.2	
	3.09	2.72	4.0	2.0		3.57	5.90	6.69	5.94	3.7	4.0	4.2	3.3	8.0	3.7	
	..	0.18	..	0.2		.42	..	.19	.37	0.7	..	..	.14	0.1	0.1
	3.09	0.36	0.3	0.2		.42	.42	1.49	.19	0.3	0.5	.7	.42	1.0	0.3	
	0.18	..	..	..		..	..	..	..	..	0.4	.56	.28	0.3	..
	0.18	0.73	0.2	0.2		.20	..	..	..	0.2	..	.42	.42	0.3	..
	0.18	..	1.8	2.3		.42	.65	.37	.19	0.5	0.6	1.4	.56	..	..
Total	6.90	4.17	7.0	5.4		5.47	7.81	10.22	9.39	6.9	6.3	7.42	5.26	10.7	4.3	

TABLE X—PRE-SCHOOL KINDERGARTENS—OFFICE OF THE ASSISTANT DIRECTOR—CHILD HEALTH CENTRE, METROPOLITAN AREA

		Office of the Assistant Director	Bexley	Cabramatta	Chatswood	Eastern Suburbs	Forest Lodge	Parramatta	Ryde	Yagoona	Total
Number of Pre-school Kindergartens	.. ..	26	11	2	18	14	18	7	11	5	112
Full Examinations	.. ..	1,090	466	78	872	413	298	249	437	132	4,035
Review Examinations	.. ..	429	102	10	47	41	195	34	30	13	901
Total	.. ..	1,519	568	88	919	454	493	283	467	145	4,936
Number of defects notified	.. ..	253	46	7	54	84	65	48	29	31	617
Percentage of defects notified	.. ..	16.6	8.0	7.9	5.8	18.7	13.1	16.9	6.4	21.3	12.5

TABLE XII—WELL BABY CLINIC STATISTICS—OFFICE OF THE ASSISTANT DIRECTOR AND CHILD HEALTH CENTRES—METROPOLITAN AREA

Well Baby Clinics				Office of the Assistant Director			Child Health Centres				
				Blacktown Area	Sutherland Area	Manly-Warringah Area	Forest Lodge	Parramatta	Ryde	Yagoona	Total
Number of Clinics	..	..	..	1	1	1	3	2	1	2	11
New Cases	..	..	..	117	114	167	175	358	194	234	1,359
Review Cases	..	..	..	120	91	82	41	77	49	33	493
Total	..	..	..	237	205	249	216	435	243	267	1,852
Number of new cases under 3 years of age	..	..	..	71	81	110	91	136	144	126	759
Number of new cases aged 3 years and over	..	..	..	46	33	57	84	222	50	108	600
Number of defects notified	..	..	..	30	149	83	70	116	83	118	649

TABLE XIII.—NOTIFIED DEFECTS—WELL BABY CLINICS—OFFICE OF THE ASSISTANT DIRECTOR AND CHILD HEALTH CENTRES—METROPOLITAN AREA

Notified Defects	Blacktown Area		Sutherland Area		Manly-Warringah Area		Forest Lodge C.H.C.		Parramatta C.H.C.		Ryde C.H.C.		Yagoona C.H.C.		Total
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
Vision (including strabismus)	1	2	7	8	6	4	9	7	15	13	9	6	7	6	100
Hearing ..	2	1	7	2	1	1	2	3	9	6	1	2	3	2	41
Nose and Throat ..	1	..	..	..	2	2	2	..	2	1	1	..	1	..	12
Teeth ..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Infestation ..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Skin ..	..	1	..	..	2	4	..	..	1	1	2	5	6	1	23
Thyroid ..	..	..	..	1	..	2	..	..	2	3	..	1	..	..	..
Heart and Circulation ..	2	1	1	..	..	..	1	1	2	..	2	2	1	..	10
Lungs ..	3	..	8	5	4	1	..	..	2	..	2	2	..	..	10
Development ..	4	4	26	23	8	4	3	9	21	22	22	13	13	3	30
Orthopaedic ..	1	1	..	..	2	..	2	..	2	1	..	..	4	..	185
Nervous System ..	..	..	..	1	..	..	..	..	..	1	4	3	4	2	13
Nocturnal Enuresis ..	..	1	19	15	14	9	10	7	5	5	..	1	4	2	15
Psychological ..	2	..	14	6	3	4	2	1	1	2	4	3	21	16	125
Speech ..	1	3	4	2	..	..	7	1	1	..	..	1	3	7	50
Other ..	..	..	4	2	..	..	4	4	2	..	..	..	3	1	27

TABLE XIV—HEARING UNITS—OFFICE OF ASSISTANT DIRECTOR AND CHILD HEALTH CENTRES—METROPOLITAN AREA

Number Investigated	Head Office 1,027		Bexley 561		Chatswood 601		Eastern Suburbs 512		Forest Lodge 540		Parramatta 850		Ryde 532		Yagoona	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
New Cases of Normal Hearing	96	71	112	80	70	44	106	67	43	27	25	17	3	7	82	66
Review Cases Normal Hearing	113	96	86	56	74	54	41	27	74	37	90	65	48	17	140	87
New Cases Remediable—																
(a) Referred for review	99	79	25	12	72	50	48	45	50	34	68	71	108	54	92	46
(b) Referred for treatment	72		33		23	16	39	51	83	59	25	40	26	11	13	9
(c) Receiving treatment					26	20	Nil		2	1	10	4				
Review Cases Remediable—																
(a) For review	99	75	33	19	74	42	16	15	40	61	119	84	123	129	123	80
(b) Referred for treatment	64		33		66	54			24	32	35	23			22	15
(c) Receiving treatment					2	1					11	9				
Cases recommended for O.D. Classes	1										2	1				
Cases recommended for Deaf School	1															
New Cases Chronic Deafness	8	10	1		9	3	19	8	10	2	13	17			4	2
Review Cases Chronic Deafness	26	16	10	4	28	19	26	11	24	14	73	46	4	2	10	3
Hearing Aids Recommended	6	14	2	3	2	2	6	3	2		1	1			2	1

Cabramatta Child Health Centre not operating

TABLE XV—STATISTICS RELATING TO CHILD GUIDANCE CLINICS—OFFICE OF ASSISTANT DIRECTOR AND CHILD HEALTH CENTRES—METROPOLITAN AREA

	Office of Assistant Director			Child Health Centres								
	Yasmar	Brisbane Street	Minda	Bexley	Cabra-matta	Chats-wood	Eastern Suburbs	Forest Lodge	Parra-matta	Ryde	Yagoona	Total
New Cases 1968	270	826	482	174	106	288	316	260	252	253	259	3,486
Cases from 1967 continued 1968	..	919	8	75	..	374	46	156	173	143	200	2,094
Old Cases Re-opened ..	38	..	18	23	17	25	16	70	38	13	22	280
Cases closed 1968	308	860	497	191	24	260	312	273	269	162	308	3,464
Cases attending and continuing to 1969	..	596	11	81	99	427	64	164	194	247	173	2,056
Total Case Load 1968 ..	308	1,745	508	272	123	687	378	486	463	409	481	5,860
Age Range (new cases)—												
0-5 years ..	..	111	..	19	14	45	20	32	36	23	25	325
6-11 years ..	20	404	48	88	53	167	95	150	144	148	119	1,436
12-15 years ..	149	245	295	44	33	56	105	69	66	64	69	1,195
Over 15 years ..	102	66	139	23	6	20	96	9	6	18	46	531
Referring Agencies—												
Children's Courts	270	167	482	6	2	1	92	10	..	1	6	1,037
Department of Child Welfare and Social Welfare	..	21	..	8	11	7	3	8	2	6	16	82
Personal application by Parent etc.	..	293	..	6	28	136	32	37	127	95	65	819
Department of Education ..	..	101	..	7	23	44	12	103	24	75	54	443
Social Agencies, Hospitals, etc.	..	33	..	5	9	12	..	19	4	18	8	108
Private Practitioners, Psychiatrists	..	62	..	15	12	46	12	31	72	26	31	307
Bureau Officer (Medical Officer, Nurses)	..	146	..	123	14	10	162	49	18	22	45	589
Speech Therapists ..	..	3	..	4	7	32	3	3	5	10	34	101

TABLE XVI—STATISTICS RELATING TO CHILD GUIDANCE CLINICS—OFFICE OF ASSISTANT DIRECTOR AND CHILD HEALTH CENTRE—METROPOLITAN AREA

	Office of Assistant Director			Bexley C.H.C.	Cabra- matta	Chatswood	Eastern Suburbs	Forest Lodge	Parramatta	Ryde	Yagoona
	Yasmar	Brisbane St	Minda								
Diagnostic Categories of New Cases—											
Developmental Disorders ..	12	40	35	4	9	Figures unavailable	18	Not available	..	30	14
Organic Syndrome ..	5	16	13	14	6		10		24	16	11
Reactive to environment ..	59	338	184	92	42		90		46	40	61
Disturbed Social Behaviour ..	150	161	139	37	12		116		46	64	14
Psychoneurotic Disorder ..	24	31	100	22	36		64		109	46	124
Psychotic Disorder ..	11	5	1	5	..		14		1	2	7
Other ..	9	3	25	..	1		4		26	55	28
Results of Treatment (closed cases)—											
Diagnostic only—no treatment required or offered	308	350	447	25	15	Figures unavailable	157	93	233	49	112
Treatment offered but declined—failed to return	..	162	20	17	4		18	34	29	10	94
Treatment given with unsatisfactory results ..	..	10	21	13	1		15	18	22	19	15
Treatment given, symptomatic improvement ..	..	52	10	95	3		82	90	80	52	51
Treatment satisfactory, good readjustment ..	..	20	18	41	1		44	38	19	15	36

TABLE XVII—STATISTICS RELATING TO CHILD GUIDANCE CLINICS—OFFICE OF THE ASSISTANT DIRECTOR AND CHILD HEALTH CENTRES—METROPOLITAN AREA

	Office of Assistant Director				Bexley C.H.C.	Cabramatta C.H.C.	Chatswood	Eastern Suburbs	Forest Lodge	Parramatta	Ryde	Yagoona	Total
	Yasmar	Brisbane St	Minda										
Psychiatrists—													
Diagnostic Interviews ..	5	837	5		521	2	200	502	164	318	133	59	2,746
Review Sessions ..	..	305	..		293	..	78	43	46	190	25	72	1,052
Therapy Sessions ..	..	1,154	..		781	..	171	634	662	..	169	302	3,873
Group Therapy Sessions ..	..	41	..		..	..	67	..	..	..	..	..	108
Psychologists—													
Diagnostic Testing Sessions ..	308	371	496		133	116	339	184	193	221	243	200	} 4,066
Diagnostic Interviews ..	..	470	..		21	73	105	254	123	175	..	41	
Review Sessions ..	..	53	26		49	..	162	68	62	386	8	54	
Individual Therapy Sessions ..	..	588	139		504	283	492	628	1,092	1,179	981	1,300	
Group Therapy Sessions ..	..	164	..		..	..	11	..	22	38	..	50	
Home and School Visits ..	..	5	..		9	13	7	1	30	..	..	5	70
Social Workers—													
Diagnostic Sessions ..	297	617	429		23	76	83	180	209	6	112	78	2,110
Review Sessions ..	..	146	45		26	..	174	111	49	94	2	24	671
Individual Therapy Sessions ..	..	1,612	340		413	327	679	1,062	1,111	531	467	479	7,021
Group Therapy Sessions ..	..	32	..		..	..	38	..	72	..	..	..	142
Home and School Visits ..	..	8	1		5	75	6	28	39	135	37	5	339

TABLE XVIII—STATISTICS SPEECH THERAPY CLINICS—OFFICE OF ASSISTANT DIRECTOR AND CHILD HEALTH CENTRES

	Head Office	Beauty Point	Child Welfare Dept	Glenfield	Bexley	Cabra-matta	Chatswood	Eastern Suburbs	Forest Lodge	Parramatta	Ryde	Yagoona
Number of Clinics	1	1	1	2/5ths	2	1	2	2	1	2	2	2
Current January 1968	..	..	67	..	60	..	37	63	31	..	32	78
Follow-Up January 1968	..	..	..	..	285	..	131	286	29	6	42	262
U.O. January 1968	..	..	..	..	35	..	20	23	30	..	18	57
Admitted to Current	..	49	59	18	144	58	120	73	36	185	99	69
Admitted to Follow-Up	..	73	14	..	187	118	211	120	48	465	133	126
Admitted to U.O.	48	9	27	6	110	16	62	30	39	86	56	66
Discharged from Current	..	29	78	9	139	25	109	61	45	134	74	119
Failed to Attend	..	2	9	..	2	5	3	12	..	4	6	10
Unable to Attend, transferred	..	10	18	2	44	3	35	11	4	58	2	41
Under Observation	..	2	19	6	89	16	62	30	39	58	56	66
Relieved	..	8	32	1	4	1	9	8	2	14	10	2
Discharged from Follow-Up	11	27	12	..	256	8	189	146	47	261	69	301
Discharged from U.O.	..	6	21	..	76	1	38	14	44	21	34	99
Current December, 1968	..	20	48	9	65	33	48	75	22	51	57	28
Follow-Up December, 1968	37	46	2	..	216	110	153	260	30	200	106	87
Under Observation December, 1968	..	3	6	6	69	15	44	39	25	65	40	24
Initial Interviews	72	162	75	23	226	139	196	187	92	196	151	172
Treatment not Indicated	12	19	18	5	15	13	32	4	8	31	17	17
Awaiting Initial Interview	..	13	..	..	60	64	57	12	12	25	45	25
Awaiting Current	..	19	..	..	5	22	9	5	11	8	10	19
Reviews	15	167	3	..	290	122	303	134	111	546	82	464
Totals Seen	78	141	158	23	499	176	450	572	182	819	306	592
Attendances 1968	87	1,472	1,216	474	3,369	1,229	2,764	2,449	1,133	3,223	2,470	3,387
School Visits	..	6	..	..	27	9	72	7	15	6	19	9

TABLE XIX—STATISTICS SPEECH THERAPY CLINICS—COUNTRY AREAS INCLUDING MEDICAL OFFICER OF HEALTH AREAS

	Lismore	Newcastle	Tamworth	Wagga Wagga	Wollongong
Number of Clinics	1	2½	1	1	2
Current January, 1968 .. .. .	..	54	27	20	71
Follow up January, 1968 .. .. .	..	307	94	61	95
Under observation, 1968 .. .. .	..	46	27	20	9
Admitted to current	92	58	34	67	129
Admitted to follow up	27	305	142	138	99
Admitted to under observation	43	53	4	22	46
Discharged from current	63	85	33	59	131
Failed to attend	11	..	..	4	7
Unable to attend, transferred	6	30	28	3	12
Under observation	43	53	4	52	110
Relieved	5	2	1	..	2
Discharged from follow up	16	244	118	109	64
Discharged from under observation	8	33	29	31	1
Current December, 1968	29	27	28	28	69
Follow up December, 1968	61	378	118	90	130
Under observation, December, 1968	35	66	2	11	54
Initial interviews	144	316	103	208	130
Treatment not indicated	36	13	8	10	4
Awaiting initial interview	25	38	7	3	27
Awaiting current	37	93	19	..	..
Reviews	138	587	242	135	169
Total seen	237	798	313	313	407
Attendances, 1968	961	2,759	1,160	1,559	2,640
School visits	6	10	8	5	2

COUNTRY AND METROPOLITAN SPEECH CLINICS—GRAND TOTALS

Current January, 1968	540
Follow-up January, 1968	1,598
Under Observation January, 1968	285
Admitted to Current	1,290
Admitted to Follow-up	2,304
Admitted to Under Observation	675
Discharged from Current	1,193
Failed to Attend	75
Unable to Attend, transferred	307
Under Observation	712
Relieved	101
Discharged from Follow-up	1,878
Discharged from Under Observation	456
Current December, 1968	637
Follow-up December, 1968	2,024
Under Observation December, 1968	504
Initial Interviews	2,592
Treatment Not Indicated	262
Awaiting Initial Interview	413
Awaiting Current	257
Reviews	3,508
Total Seen	6,064
Attendances 1968	32,352
School Visits	199

TABLE XX—CLASSIFICATION OF CASES—OFFICE OF THE ASSISTANT DIRECTOR AND CHILD HEALTH CENTRES

[illegible]

TABLE XXII—CLASSIFICATION OF CASES—SPEECH THERAPY CLINICS—COUNTRY AREAS INCLUDING M.O.H. AREAS

	Lismore	Newcastle	Tamworth	Wagga Wagga	Wollongong
Aphonia .. .. .	..	..	..	..	..
Dysphonia	1	1	4	1	1
Nasality	2	5	3	..	5
Cleft Palate	7	12	15	5	20
Dyslalia	137	358	123	174	172
Sigmatism	9	39	2	11	11
Structural .. .. .	..	13	..	..	3
Hearing loss	8	21	2	8	14
Dysarthria .. .. .	..	8	2	10	5
Alalia	6	3	..	12	20
Dyslalia plus language	22	131	65	38	37
Aphasia .. .. .	..	22	..	7	2
Dysphasia .. .. .	..	42	12	3	5
Primary Stammer	28	32	15	22	27
Secondary stammer	13	61	41	16	28
Clutter .. .. .	..	..	2	1	..
Dyslalia and stammer	4	44	11	5	8

REFERRAL OF CASES—SPEECH THERAPY CLINICS—COUNTRY AREAS INCLUDING M.O.H. AREAS

	Lismore	Newcastle	Tamworth	Wagga Wagga	Wollongong
Child Guidance Clinics	12	1	..	1
Hearing Clinic	1	3	5	..
Psychologist	26	..	..	..
Division of Guidance and Adjustment	8	15	19	50
Bureau Officer	104	5	26	11
Grosvenor	1	..	..
Diagnostic team	26	..	..	7	..
Commonwealth Acoustics Laboratory	3	12	..	..	6
Paediatrician	37	..	..	5
Orthodontist	1	..	1
Neurologist	1	..	..	..
E.N.T. Surgeon (or G.P.)	4	..	..

TABLE XXIII—SPEECH CLINICS

Classification of Cases—Metropolitan and Country—Grand Totals

Aphonia .. .. .	..
Dysphonia	28
Nasality	58
Cleft Palate	140
Dyslalia	2,709
Sigmatism	297
Structural	21
Hearing Loss	177
Dysarthria	79
Alalia	134
Dyslalia and Language	871
Aphasia	65
Dysphasia	181
Primary Stammer	354
Secondary Stammer	489
Clutter	12
Dyslalia and Stammer	227

Referral of Cases—Metropolitan and Country—Grand Totals

Child Guidance Clinic	122
Hearing Clinic	81
Psychologist	147
Division of Guidance and Adjustment	182
Bureau Officer	687
Grosvenor	8
Diagnostic Team	44
Commonwealth Acoustic Laboratory	73
Paediatrician	54
Orthodontist	10
Neurologist	5
E.N.T. Surgeon or (G.P.)	11

TABLE XXIV—TEACHER TRAINING COLLEGES—STATISTICS RELATED TO MEDICAL STAFF—STUDENT ENROLMENT—HEALTH EDUCATION COURSE

Teacher Training College	Enrolment			Authorized Staff	Number of separate health education courses	Number of examination papers corrected	Number of assignments corrected	Number of demonstration lessons	Number of student visits arranged	Number of guest speakers
Sydney and North Newtown Annexe	Undergraduates	1,719	11	1,014	No figures—(Only given to advanced students).	8	7	5
	Graduates (Diploma in Education)	..	..	531				
	Teachers College students	..	..	799				
	Total	..	..	3,049				
Alexander Mackie	Undergraduates	1,044	6	397	267	3
	Graduates (Diploma in Education)	..	..	183				
	Teachers College students	..	..	502				
	Total	..	..	1,729				
Balmain and Orange Grove	Teachers College students	359	4	197	166	7
	Total	..	..	359				
Armidale	Undergraduates	414	3	395	102	6
	Graduates (Diploma in Education)	..	..	93				
	Graduates (External)	..	..	275				
	Teachers College students	..	..	454				
Bathurst	Total	961	1	161
	(In Residence—	..	..	373).				
	Teachers College students	..	..	366				
	Total	..	..	366				
Newcastle	(In Residence—	269).	2	458	2	1
	Undergraduates	..	..	394				
	Graduates	..	..	90				
	Teachers College students	..	..	770				
Wagga Wagga	Total	1,254	1	184
	Teachers College students	..	..	360				
	Total	..	..	360				
	(In Residence—	..	..	360).				
Wollongong	Undergraduates	14	3	220	Figures not available.	1
	Graduates	..	..	23				
	Teachers College students	..	..	657				
	Total	..	..	694				

TABLE XXV—TEACHER TRAINING COLLEGES—STATISTICS RELATED TO HEALTH SUPERVISION OF STUDENTS

	Sydney and North Newtown Annexe	Alexander Mackie	Balmain Orange Grove	Armidale	Bathurst	Newcastle	Wagga Wagga	Wollongong	Total
Student visits for medical and surgical first-aid ..	2,647	270	223	162	2	607	10	240	4,161
Student visits for counselling	309	157	94	..	3	10	3	15	591
Student attendances fitness to resume	75	150	22	..	3	24	6	12	292
Number of students examined for Superannuation Benefits	955	359	115	299	162	409	184	320	2,803
Number examined by College Medical Officers ..	359 (with assistance from Section of Child Health)	100	63	299	162	409 (with assistance from M.O.H. Newcastle)	184	320 (with assistance from M.O.H. South Coast)	1,896
Number examined by Medical Examinations Centre	596	259	52	..	..	..	..	..	907

SECTION OF SPECIAL SERVICES

Assistant Director: W. HEMPHILL, M.B., B.S., D.C.H.

86-88 George Street North, Sydney

In 1968 there was a redistribution of staff between the Section of Child Health and the Section of Special Services and this resulted in concentration of key positions to the latter section leaving the position as under:

- 1 Assistant Director
- 1 Senior Psychiatrist
- 1 Principal Clinical Psychologist
- 1 Senior Social Worker
- 1 Senior Speech Therapist
- 3 Senior Medical Officers
- 1 Medical Officer

Redistribution resulted in further delineation of the staff of the Section to an increasing consultative role to the Section of Child Health and the Section of Maternal and Infant Care.

The diagnostic clinic for atypical children was continued at George Street North to provide service for children not catered for by Child Health Centres. One hundred and ninety-two new cases were seen and seventy-seven cases reviewed. Children with problems in language development, significant hearing defect, significant vision defect, behaviour disorder, and various grades of mental retardation constituted the majority of those seen. Advice was given about management, special class placement, or further investigation indicated.

Medical officers conducted Well Baby Clinics and Paediatric Referral Clinics in Baby Health Centres at Narrabeen, Caringbah, Liverpool, Fairfield, Hornsby, Paddington, Chatswood, Parramatta, Kogarah and Petersham. Most of the patients referred to these clinics were in the under 2 years age group and presented with problems in feeding, in sleeping or in other aspects of management.

A visit to Broken Hill was made by a diagnostic team of physician, psychologist, social worker and speech therapist. During 8 working days the team examined 68 children of whom 57 were school age and 11 were pre-school children. The children were referred to the team by general practitioners, staff of the Broken Hill and District Hospital, the Royal Flying Doctor Service, and the Department of Education. Diagnoses included sensory handicaps, learning disabilities, disorders of speech and language, behaviour disturbances, intellectual handicap, and combinations of these.

A visit was made to Albury to offer consultative service to the part-time medical officers conducting the School Medical Service in the area. Cases are selected by the medical officers and the District School Counsellor and include failure to progress in education, sensory handicaps, disorders of speech and language, behaviour disturbances and intellectual handicap.

Speech Clinics, 1968

Dual interviews by speech therapists and an itinerant senior medical officer visiting some of the Child Health Centres were continued regularly. However, these were held during 6 months of the year only as the medical officer concerned was on leave for the other 6 month period.

Frequent visits were made to the Speech Clinics at Chatswood and Eastern Suburbs Child Health Centres with occasional visits to Parramatta Child Health Centre and to Beauty Point Speech Clinic. One day was spent at Blacktown Baby Health Centre when ten children's speech defects were evaluated.

A total of 32 visits was made to assess 56 children, including 44 boys and 12 girls. Fifty-one children, 46 boys and 5 girls, previously assessed, were reviewed.

In addition, 49 children, 35 boys and 14 girls, were seen at Head Office, in conjunction with a speech therapist and a further 14 children were reviewed there.

Paediatricians, general practitioners, dentists, school medical officers and sisters, education authorities and parents themselves referred children with speech defects to the Child Health Centres.

The practice of keeping pre-school kindergarten and school teachers informed of the children attending the clinics was maintained and, at intervals, they were advised on their management of the defect in the school situation.

In many cases, the initial interview, involving history-taking and parent counselling, was the only interview necessary the parents later reporting gradual progress.

A few children were referred for neurological investigation and to the Hearing Clinics and to Child Guidance Teams.

A number of children had already been assessed at the Education Clinic before attending for speech therapy; a number were referred to the Division of Guidance and Adjustment for psychometric testing and advice concerning learning problems.

The clinical psychologists continued to carry out language evaluations, their reports being most helpful in directing therapy and advice to teachers.

Of the 115 children with speech problems, 62 had articulation disorders and in a number of these there were marked dysphasic and dyspraxic elements; 18 showed slow speech development with evidence in some, of specific difficulties and in others of intellectual handicap; 13 had dual speech defects; 8 were stammerers; 7 had sigmatism; in 2, speech was considered to be within normal limits; 2 had residual articulation defects after surgical repair of cleft palates; 1 had a hearing impairment and an articulation disorder and 1 had hyper-rhinophonia.

Thirty-four children were accepted for treatment and 69 for follow-up at intervals. A further 6 children were to be seen for follow-up only if the parents remained worried after the initial interview and discussion of the speech defect.

In addition, visits were made to the Speech Clinic at the Far West Children's Home, Manly, where 35 children, 26 boys and 9 girls, were evaluated in six sessions. These children received therapy for varying periods of time.

Of these, 26 had articulation disorders at least seven of these having complications of dysphasic elements and one of intellectual handicap; 5 others were showing slow speech development; there were 2 stammerers and 1 child with a hearing impairment and associated articulation defect and 1 child had elective mutism.

Expanding facilities and team work within the Child Health Centres and Speech Clinics made observation, investigation, diagnosis, treatment, and parent counselling far more effective.

Special Homes, 1968

"Dalwood" Health Home, Seaforth, was visited on five occasions during the 6 months of the year that the itinerant senior medical officer was on duty.

Two of these visits were for discussions only with the staff. On the other occasions, too, the staff was advised on its management of the children's problems.

Seventeen full medical examinations and six reviews were made; two parents only were available for interview. Three children were referred with visual defects and three with hearing impairment.

One visit was made to Seaforth Infants School (with subsequent follow-up per telephone) regarding some learning and behaviour problems.

Division of Dental Services

Director: W. B. HAYMET, B.D.S.(Hons)

Location: Goldsbrough House, 11 Loftus Street, Sydney 2000

STAFF

43 Full-time Dental Officers including Director and Supervisor.

7 Part-time Dental Officers.

34 Dental Assistants.

2 Office Assistants.

Budgetary circumstances restricted the more important activities of the Division mainly to those of a routine nature. Improvements were achieved in some of the Institutions, new clinics being completed for the Prisons and Child Welfare Departments. Although some Loan Funds were granted for a new School Dental Clinic the major finance anticipated for the Dental Nurses' Training School did not materialize. This was particularly unfortunate as Tasmania, South Australia and the Australian Capital Territory are well advanced with similar projects when the original move in this direction was in New South Wales. The only personnel of this type employed in this State were trained in New Zealand.

The limited finance received is being put to good purpose in the construction of a very modern dental clinic for school children in the Green Valley area.

Considerable effort was directed to interests outside the usual activities of the Division. Contact, including country visits, was maintained with the Western Shires Dental Scheme which has functioned extremely well since its inception. New premises and residences were completed at Bourke and Balranald. Most of the subsidiary clinics connected with the scheme have been finalized. Practical assistance will be provided to the scheme next year by the Aerial Dental Service, particularly at Brewarrina and Cobar.

The Division of Forensic Medicine was given professional assistance throughout the year. Some direct liaison was maintained with the Criminal Investigation Bureau. Several appearances in court were necessary. Liaison was also maintained with the Royal Flying Doctor Service, the Australian Dental Association (Federal and State Branches), the Dental Health Education and Research Foundation, the Dental Hospital and the Faculty of Dentistry, University of Sydney. It was necessary to assist the Division of Health Education in its very important undertakings throughout the year.

The Division organized the physical facilities for a Bacteriological Survey of 500 school children by the Institute of Dental Research. The co-operation of the various Area Directors of Education was appreciated in this project.

Lectures were made available to the College of Nursing, the In-Service Training Programme for Public Health Nurses, and the Teachers' College in Newcastle. The usual advisory service was extended to the Child Welfare Department, the Aborigines Welfare Board, and the Police Department. Routine visits by a mobile clinic were made to the campus of the University of N.S.W. in the May and August-September vacation periods.

The Division moved its office from 86 George Street to 11 Loftus Street in December. Although the location is convenient the actual office space is less than necessary and of mediocre quality. It is anticipated that a more satisfactory environment will be obtained in approximately 12 months time.

The total statistical achievement for the Division in 1968 was, as under:

Examinations	..	..	..	..	..	..	..	..	99,098
Notifications of dental defects	..		..	..	..	..	..	..	26,516
New cases	..	..	..	..	..	..	..	..	27,507
Repeat cases	..	..	..	..	..	..	..	..	78,198
Total cases	..	..	..	..	..	..	..	..	105,705
Extractions	..	..	..	..	..	..	..	..	41,478
Fillings	..	..	..	..	..	..	..	..	94,079
Treatments, including prophylaxis			..	..	..	..	..	..	107,658
General anaesthetics	..	..	..	..	..	..	..	..	151
Dentures	..	..	..	..	..	..	..	..	1,017
Denture repairs	..	..	..	..	..	..	..	..	450
Orthodontic appliances		..	..	..	..	..	..	..	349

School Dental Service

The new dental clinic at Orange functioned without interruption during 1968, despite some staffing difficulties. The service was well patronized, and is an indication of the need for similar facilities in the major provincial centres. With the Loan Funds in hand an excellent site was made available by the Department of Education for a new dental clinic at the Cartwright Public School, Green Valley. This unit will be functioning in June, 1969, at the latest.

The Institute of Dental Research graciously presented, free of all costs, an additional mobile dental clinic to make a total of nineteen now in service in New South Wales schools. This will be air-conditioned next year. Assistance was given to the Department of Preventive Dentistry of Sydney University, with the annual Fluoridation Survey at Tamworth. Staff and a mobile clinic were made available. At the University of N.S.W., 805 examinations were carried out during school vacation periods.

One hundred and fifty-seven schools were visited for the purpose of notifying dental defects. Two hundred and seventy-seven schools were visited to carry out actual treatment for the children. This included seventeen schools such as Tibooburra, Menindee, and Wilcannia visited on a regular basis by the Aerial Dental Service.

Because of the restrictions of the Dentists Act, it was necessary for Dental Officers to examine 4,823 children prior to treatment being commenced by School Dental Nurses. The time and travelling involved were uneconomical and further effort will be directed at correcting this expensive anomaly.

The notification clinics examined 48,250 children, 54·2 per cent of whose parents were notified of dental defects present, urgently requiring attention. Of 20,027 children examined prior to treatment by mobile dental clinics, 64·1 per cent required treatment. Only 13·4 per cent had naturally healthy dentitions. A further 22·5 per cent were dentally fit as a result of previous treatment. Parents of 72·7 per cent of the children requiring treatment accepted the free dental treatment offered.

In addition to that at Orange, the established clinics at Adamstown, Hurstville, Wollongong, Tamworth, Naremburn, and Parramatta continued to be well patronized. Routine clinics were conducted at Glenfield Park School and Stewart House Preventorium.

Total achievements in N.S.W. schools

Examinations	..	..	..	..	..	..	..	..	83,175
Notified	..	..	..	..	..	..	..	..	26,159
New cases	..	..	..	..	..	..	..	..	21,298
Total cases	..	..	..	..	..	..	..	..	81,078
Extractions	..	..	..	..	..	..	..	..	29,264
Fillings	..	..	..	..	..	..	..	..	85,598
Treatments including prophylaxis				..	..	..	..	..	90,929
General anaesthetics	..	..	..	..	..	..	..	..	9
Dentures	..	..	..	..	..	..	..	..	67
Orthodontic appliances			..	..	..	..	..	..	349

Aerial Dental Service

The aerial service which is only possible through the assistance of the Royal Flying Doctor Service (N.S.W. Section), continued its operations without interruption during 1968. Mr O. A. Denny, the Manager of the Service, retired during the year. His ready assistance at all times has been very much appreciated both by the field and Head Office staffs of this Division.

The dental team consisted of a Dental Officer, Dental Nurse, and Dental Assistant. They travelled 49,195 miles by air and 5,540 by Land-Rover. In addition to routine treatment of schools in Broken Hill, regular visits were made to the schools at Menindee, Wilcannia, Tibooburra, Ivanhoe, White Cliffs, and Wanaaring. The hospitals at Wilcannia, Tibooburra, and White Cliffs received organized attention. Twenty-three homesteads and missions in New South Wales, Queensland, and South Australia received a total of 123 visits.

Where necessary treatment including dentures and general anaesthetic procedures was extended to the adult population.

Examinations	3,178
New cases	2,135
Total cases	5,172
Extractions	2,618
Fillings	4,995
Other treatments	5,695
General anaesthetics	9
Dentures	40
Orthodontic appliances	34

A film on the activities of the Service prepared by the Australian Broadcasting Commission was purchased for publicity purposes.

Institution Service

Regular visits were made to the Government Hospitals, Homes, and Establishments, in which the Division has a responsibility throughout 1968. Emergency arrangements were available where the visiting Dental Officers were not available because of leave or duties elsewhere.

The pattern of treatment is changing in Psychiatric Hospitals where there is a greater proportion of the patients remaining at the hospitals for short periods. For several years oral hygienists have been used at the Peat and Milson Islands Hospital. The time will soon be opportune to concentrate more on the preventive, particularly periodontal, aspects of dental care of those patients resident in the hospitals for long periods.

The unsatisfactory arrangements previously existent in the Northern Hospitals has been partially corrected. An additional Dental Officer has been requested on the 1969 staff estimates.

Difficulties of accommodation arose at Gladesville Hospital. The position will be improved early in the new year with the assistance of the hospital administration.

A new clinic is being constructed at the Marsden Hospital, Westmead. Patients requiring treatment from the Rehabilitation Centre at Parramatta will also receive treatment at this clinic.

Services completed:

Examinations	8,428
New cases	2,202
Total cases	9,998
Extractions	4,258
Fillings	2,789
Treatments including prophylaxis	5,395
General anaesthetics	84
Dentures	362
Denture repairs	307

State Hospitals and Homes

Although regular visits were made to the State Hospitals and Homes a relatively minor amount of treatment was accomplished. The majority of the treatment is palliative and supportive.

Services completed:

Examinations	1,157
New cases	566
Total cases	1,742
Extractions	1,511
Fillings	336
Treatments including prophylaxis	1,126
General anaesthetics	58
Dentures	160
Denture repairs	63

Penal Establishments

An excellent dental clinic was completed in the new hospital block at the Remand Section of the State Penitentiary. The clinic consists of two modern surgeries and a laboratory. Additional equipment has been purchased and alterations are being made to the original clinic in the Central Industrial Prison. A new surgery is in the course of construction at the new establishment at Silverwater. Plans have been made for a clinic in the proposed new prison at Kurri Kurri.

The Health Department is now responsible for the financial obligations of the dental treatment of all penal establishments.

Services completed:

Examinations	..	..	..	..	..	..	..	..	2,224
New cases	..	..	..	..	..	..	..	..	1,969
Total cases	..	..	..	..	..	..	..	..	5,915
Extractions	..	..	..	..	..	..	..	..	3,904
Fillings	..	..	..	..	..	..	..	..	687
Treatment including prophylaxis	..	..	..	..	..	..	..	..	3,517
Dentures	..	..	..	..	..	..	..	..	170
Denture repairs	..	..	..	..	..	..	..	..	46

Child Welfare Department Homes

The usual co-operation was given by the Child Welfare Department during the year. An excellent surgery was completed in the new establishment at Kurri Kurri. The old surgery at the Parramatta Girls Training School is being transferred to a better location adjacent to the medical treatment centre, and some more modern equipment has already been ordered. Some new equipment was also installed at St Helier's, Muswellbrook in 1968.

The staffing of all institutions in the Newcastle Health District will require reorganization during 1969.

Services completed:

Examinations	..	..	..	..	..	..	..	..	3,309
New cases	..	..	..	..	..	..	..	..	1,472
Total cases	..	..	..	..	..	..	..	..	6,972
Extractions	..	..	..	..	..	..	..	..	2,541
Fillings	..	..	..	..	..	..	..	..	4,669
Treatments including prophylaxis	..	..	..	..	..	..	..	..	6,691
Dentures	..	..	..	..	..	..	..	..	258
Denture repairs	..	..	..	..	..	..	..	..	34

Conclusions

The overall progress in Dental Health continued throughout the year under review. The achievements in fluoridation in N.S.W. were particularly noteworthy. By 1971, 80 per cent of the State should be fluoridated. Progress in food additives in relation to dental caries prevention was less than anticipated, although the National Health and Medical Research Council continued its support with limitations.

There is some new thought concerning the bacteriology of the mouth and its relationship to dental disease. The acid-producing streptococci are receiving special attention both overseas and in Australia. The survey by the Institute of Dental Research in N.S.W. schools is related to these investigations. The enzyme dextranase as a possible method of reducing the harmful effects of particular streptococci is under close observation.

The Dental Health Education and Research Foundation of the University of Sydney continued to concentrate interest in dental health particularly through the mass media. There is a good liaison with the service clubs such as Apex.

Considerable interest was directed to the possibility of a Dental Benefits' Scheme. The Federal Office of the Australian Dental Association presented evidence to the Senate Select Committee on medical and hospital costs. The initial planning of the scheme is restricted to younger children, commencing at 2 years of age, extending yearly by increments to 12-year-old children. It is obvious that although the majority of parents may enter into a form of insurance similar to the Medical Benefits Scheme, at least 30 per cent would not do so, and will remain the particular concern of direct governmental care.

Despite these indications of satisfactory general progress, there still remains the problem of sufficient personnel for therapeutic programmes. Organized treatment facilities will always be necessary to achieve a high standard of dental health particularly in school children.

The Dental Nurses' Training Scheme is an essential component of any comprehensive dental health programme.

HEALTH DISTRICTS

The Metropolitan Health District

Metropolitan Medical Officer of Health: Dr I. K. HAY, M.B., Ch.B., D.P.H., D.T.M.&H., F.A.C.M.A.

Deputy Metropolitan Medical Officer of Health: Dr W. A. LOPEZ, M.B., D.P.H., D.I.H., F.A.C.M.A.

Assistant Medical Officers of Health: Dr P. J. CHRISTOPHER, M.B., B.S., D.P.H. Dr T. R. McCALL, M.B., Ch.B., D.P.H.

Location: Department of Public Health, 52 Bridge Street, Sydney

GENERAL

The Metropolitan Medical Officer of Health is responsible for the control of communicable disease within the Metropolitan Health District, which comprises 39 local authority areas, with a population of over two and one quarter million. He is responsible, through the Chief Health Inspector, for the supervision of environmental hygiene and sanitation; and, through the Chief Food Inspector, for the administration of the Pure Food Act and Regulations. The Metropolitan Medical Officer of Health represents the Department on several Statutory Boards and Committees: he is Chairman of the New South Wales National Health Week Council, Chairman of the Fluoridation of Public Water Supplies Advisory Committee, and Departmental Liaison Officer with the State Planning Authority of N.S.W. The appointment of a Deputy Medical Officer of Health has enabled a programme of closer association with the metropolitan local health authorities to be established, particularly in the field of communicable disease.

MEDICAL STAFF

Dr T. R. McCall, who attained a Diploma in Public Health at Sydney University in 1967, assumed duty as Assistant Medical Officer of Health in the Metropolitan Health District on 22nd January, 1968.

VITAL STATISTICS

The population of the District at 30th June, 1968, was 2,631,510 an increase of 54,330 in the year.

There were 47,627 live births, equal to a birth rate of 18·10 per 1,000 mean population. Deaths numbered 25,318, representing a rate of 9·62 per 1,000 mean population. Maternal deaths numbered 19, equivalent to a rate of 0·40 per 1,000 births. Deaths under 1 year of age totalled 857, representing an infant mortality rate of 17·99 per 1,000 live births.

WESTERN METROPOLITAN HEALTH DISTRICT

The establishment of the Western Metropolitan Health District was further delayed because of financial difficulties.

Accommodation for the district office was obtained at the Government Insurance Office Building, Church Street, Parramatta, and it is expected that the Health District will be established and functional in May, 1969.

COMMUNICABLE DISEASE

During 1968 the following communicable diseases were notified in the Metropolitan Health District:

COMMUNICABLE DISEASE, METROPOLITAN HEALTH DISTRICT, 1968

Disease	Cases	Deaths
Brucellosis	1	—
Diphtheria	9	—
Encephalitis, viral	18	7
Hydatid Disease	10	2
Infantile Diarrhoea	370	19
Infectious Hepatitis	1,509	8
Leptospirosis	1	—
Malaria	42	1
Ornithosis	2	—
Paratyphoid	1	—
Q Fever	1	—
Tetanus	2	1
Typhoid Fever	10	—

Infectious Hepatitis

Some 305 fewer cases of Infectious Hepatitis were notified, compared with 1967, representing a 16·8 per cent decrease in the incidence as notified. The epidemiological explanation of this may well be associated with population density and the frequency of contact in the urban situation compared with the rural areas.

Hydatid Disease

Although the figures are too small to impute significance to this fourfold increase over 1967, the notification of 9 cases with 2 deaths is a reminder of the continuing need for awareness of this problem by doctors, health officers and the general public.

TEACHING

The Medical Officer of Health, the Deputy Medical Officer of Health, the Assistant Medical Officers of Health, Health Inspectors and Food Inspectors were involved in instructional activities to various groups.

These groups included:

- (1) Postgraduate students for the Diploma in Public Health, University of Sydney—lectures and field visits on Environmental Hygiene and Pure Food Administration.
- (2) Undergraduate medical students at the University of New South Wales—lectures on The Physical Environment.
- (3) Departmental and other nurses attending the in-service training course in Public Health. Nursing—lectures on environmental hygiene and community health.
- (4) Ad hoc lectures and talks on request to various community groups.

CHILD ACCIDENT PREVENTION PROJECT

During 1968 the Deputy Metropolitan Medical Officer of Health continued as Chairman of the Ryde Child Injury Prevention Committee concerned with a project designed to reduce the number of accidental injuries which occur to children in the Ryde area. The following activities were undertaken:

- (1) Regular talks on accident prevention to Parents and Citizens' Associations and Mothers' Clubs in the area.
- (2) A course of instruction for Scout and Guide leaders and Boys' Brigade Officers on teaching methods for home safety.
- (3) Talks on television and radio, and contribution of articles to magazines on Safety in the Home.
- (4) A survey of accidental injury to children in the neighbouring area of Bankstown with a view to evaluating the efficacy of measures taken to reduce accidental injury to children in Ryde.
- (5) Presentation of a feature—an exhibition of common poisonous plants, and poisons around the home and a talk—to the Symposium on Domestic Safety of the 12th Annual N.S.W. Industrial Convention.
- (6) Compilation of the syllabus and "Notes for Leaders" for the Duke of Edinburgh Award Scheme for "Safety in the Home".

ENVIRONMENTAL SANITATION AND PURE FOOD ADMINISTRATION

Details in respect of the Metropolitan Health District will be found in the reports of the Chief Health Inspector and Chief Food Inspector.

Newcastle Health District

Medical Officer of Health: Dr H. R. DUGDALE

Location: The Newcastle Health District comprises nine municipalities of which Newcastle City is by far the largest and fourteen shires. It extends from the Hawkesbury River in the south to the northern boundary of the Macleay Shire, where it meets the North Coast Health District. The Western and North Western Health Districts form the inland boundary.

STAFF

Medical Officer of Health, two Deputy Medical Officers of Health. One Psychiatrist, two Psychologists—one part-time, two Social Workers. One Speech Therapist—one part-time. One Senior School Medical Officer, four School Medical Officers (one part-time). Seven School Nurses. One Senior Food Inspector, one Food Inspector. One Senior Health Inspector, three Health Inspectors. One Assistant Nurse Inspector. Five Tuberculosis Nurses. Twenty-five Baby Health Centre Sisters. One Engineer, Clean Air Act. Two Clerks, one Shorthandwriter-Typist, three Office Assistants.

INFECTIOUS DISEASES

Diphtheria

One case was notified in May—a child who had been immunized in infancy but had not had a reinforcing injection. The child's mother was found to be a carrier. Both were treated and a series of follow up swabs were negative.

Typhoid

Cases were notified in May and in November. The first was a single case who contracted the disease outside the district. The other was a carrier, who was given a course of treatment.

TABLE I—COMMUNICABLE DISEASES WITH DEATHS 1967–1968

Disease	1967 Cases	Deaths	1968 Cases	Deaths
Brucellosis .. .. .	..	..	1	..
Diphtheria	1	..	1	..
Encephalitis Viral	1	1	3	2
Infantile diarrhoea	16	4	21	3
Infectious Hepatitis	472	..	201	1
Leptospirosis .. .. .	..	..	4	..
Tetanus .. .. .	..	..	2	2
Tuberculosis	70	8	127	12
Typhoid Fever .. .. .	..	..	2	..
Syphilis	26	..	18	..
Gonorrhoea	306	..	182	..

ENVIRONMENTAL SANITATION

Water Supply

A number of water supplies were investigated and found to be unsuitable for domestic use without prior treatment.

Treatment of these supplies have proved to be very difficult as the reticulation mains are also being used as rising mains.

Sewerage Schemes

New sewerage schemes for Wyong and Tuncurry-Forster were commenced and should come into operation in the near future.

New schemes were investigated for a number of Local Government Areas and the Hunter District Water Board.

Hunter River Pollution

A number of meetings of the Hunter River Water Pollution Advisory Committee were convened and Progress Report No. 1 was submitted to the authorities concerned for consideration.

The Broken Hill Co. Pty Ltd, installed a “package” Type Treatment Plant to eliminate some septic tanks and reduce pollution.

Camping Areas

Investigation indicates that the standards of some camping areas showed a marked improvement. Others still left much to be desired.

Sanitary Depots

Regular inspection of garbage and nightsoil depots was carried out and generally it was found that Councils are reluctant to spend large sums on control and covering of garbage. The condition of many of these depots was drawn to Council’s attention.

TABLE 2—ROUTINE INSPECTIONS AND INVESTIGATIONS

	1967	1968
Noxious trade premises	206	280
Premises (Public Health Act) .. .	15	22
Water and sewerage samples collected .. .	83	102
Water and sewerage treatment plants .. .	26	58
Applications of proposed septic tanks .. .	3,376	3,549
Inspections of existing septic tanks .. .	206	328
Inspections of sanitary depots (proposed) .. .	10	18
Inspections of sanitary depots (existing) .. .	253	238
Investigations of complaints, nuisances, etc. .. .	289	416
Inspections of public amenities, camping grounds, parks, reserves, and swimming pools .. .	219	247
Private schools .. .	2	3
Government institutions and Aboriginal reserves .. .	12	12
Unhealthy building land .. .	30	22

PURE FOOD

Cessnock Co-operative Slaughterhouse finally closed in April and transferred its kill to Maitland Abattoir.

New equipment has been installed in Red Funnel Fisheries following inspection and advice.

Action was taken to prevent the sale of poultry offal for use in sausages throughout Gosford Shire in June, 1968.

Quantities of meat delivered to a hospital were seized as being unfit for food. This resulted in better supplies to the hospital.

Complaints were received and action taken regarding dogs in and around food shops in Newcastle. The dressing and retail sale of rabbits was also the subject of corrective action.

Past attention has improved conditions at the various showgrounds in the area. Nevertheless over 700 lb of ready to eat foods were seized and destroyed at various showgrounds. It is expected that further improvement in the future will take place.

Many talks were give to public bodies and business personnel and advice was provided to a number of food companies on such matters as rebuilding, renovation, and extensions. Liaison has been maintained with and advice and assistance given to the various local authorities’ inspectors.

TABLE 3

	1967	1968
Food samples	631	586
Inspections	1,508	1,427
Notices	155	276
Complaints	104	99
Food seized and destroyed	9,190 lb	15,016 lb
Prosecutions	62	53
Fines and costs	\$2,042	\$1,497

PRIVATE HOSPITALS ACT

TABLE 4

						1967	1968
Inspections of private hospitals	..	..	..	..	..	53	57
Inspections of rest homes	..	..	..	..	..	105	115
Inspections of proposed sites	..	..	..	..	..	6	22

MATERNAL AND BABY WELFARE

TABLE 5

ATTENDANCE AT BABY HEALTH CENTRES

Year			Total	Hospital visits	Home visits	Individual attendances
1967	..	..	96,292	622	1,766	12,904
1968	..	..	98,109	830	3,784	13,407

ATTENDANCES AT PRENATAL CLINICS

1967	..	..	..	..	..	..	..	2,257
1968	..	..	..	..	..	..	..	1,820

PREMATURE BABIES AND FEEDING DIFFICULTIES

1967 ..	..	No. notified	13	Number of home visits	.. 254
1968 ..	..	No. notified	54	Number of home visits	.. 144

TABLE 6

ASSISTANT NURSE INSPECTOR

ASSISTANT NURSE INSPECTOR						1967	1968
Inspections of Baby Health Centres	..	..	..	..	..	140	120
Sites for proposed centres	..	..	..	..	..	5	Nil
Interviews with committees	..	..	..	..	..	4	1

SCHOOL MEDICAL SERVICE

TABLE 7

	1967	1968
No. of schools	615	618
Departmental scheme	191	196
Number of these examined	178	184
Shire scheme	424	420
Number of these examined	166	149
Full examinations by Medical Officers	14,879	14,658
Review examinations by Medical Officers and Nurses	17,088	14,716
Review examinations mainly conducted by Nurses	4,696	5,823

High Schools—Review Examinations

	High School					Post-High School					1967	1968
Not referred to Medical Officers	9,674	12,798
Referred to Medical Officers	496	391
Total	10,170	13,189

Child Guidance Clinic

TABLE 8

Case Load	1967	1968
New cases referred	368	793
Cases from previous year	186	303
Old cases re-opened	76	114
Total Case Load	630	1,210
Cases closed	327	449
Cases attending and continuing to next year	303	230

Results of Treatment (Closed Cases Only)	1967	1968
Diagnostic only: treatment not required or not offered	105	104
Treatment offered but declined	34	86
Treatment given—results unsatisfactory	38	38
Treatment given—symptomatic improvement	142	212
Treatment satisfactory—good readjustment	8	9

Speech Therapy Clinic

TABLE 9

	1967	1968
Number of attendances	2,306	2,759

TUBERCULOSIS CONTROL

TABLE 10

Attendances	1967	1968
Clinic sessions	501	571
Total attendances	12,884	15,283
Home visits	3,242	2,731

NEWCASTLE TEACHERS COLLEGE

	1968
Total enrolment	1,250
Number of medical examinations	432
Number of Health Education Lectures	15 per week in first term. 12 per week in second and third terms.
Number of student visits for first-aid, medical advice, etc.	300
Number of student visits for counselling	10
Number of student visits for fitness to resume after sick leave	40
Number of staff visits for first-aid	33

South Coast Health District

Headquarters Office: 4th floor, A.M.P. Building, Keira Street, Wollongong. Phone 2 1220

STAFF

Medical Officer of Health: Dr E. C. WALLACE, M.B., B.S., D.P.H.

Deputy Medical Officer of Health: Dr C. E. VAUGHAN, M.B., B.S., D.P.H.

One School Medical Officer (full-time), 1 School Medical Officer (part-time) 1 Medical Officer (Wollongong Teachers College), 1 Senior Pure Food Inspector, 1 Pure Food Inspector, 2 School Nurses, 1 Senior Health Inspector, 3 Health Inspectors, 4 Tuberculosis Sisters, 1 Assistant Nurse Inspector, 2 Speech Therapists, 17 Permanent Baby Health Centre Sisters, 5 Temporary Baby Health Centre Sisters, 1 Clerk, 4 Office Assistants, 1 Operator/Receptionist Chest Clinic.

During the year there were three resignations, three transfers and five additions to the Staff. Three vacant positions remain unfilled.

DISTRICT

This District extends from Helensburgh in the north to the Victorian border in the south, and to the tablelands to adjoin the Australian Capital Territory. The District comprises the following local authority areas:

Municipalities: Bega, Bombala, Bowral, Cooma, Goulburn City, Kiama, Queanbeyan, Shellharbour, City of Greater Wollongong.

Shires: Bibbenluke, Crookwell, Eurobodalla, Gunning, Imlay, Mittagong, Monaro, Mulwaree, Mumbulla, Shoalhaven, Snowy River, Tallaganda, Wingecarribee, Wollondilly, Yarrowlumla.

VITAL STATISTICS, 1968

Population.—The population of the district at 30th June, 1968, was estimated at 334,200.

Live Births.—There were 6,499 live births equal to a rate of 19.45 per 1,000 of population. Of these 3,358 were males and 3,141 females.

Deaths.—Deaths numbered 2,640, equivalent to a rate of 7.90 per 1,000 of population. Of these 1,550 were males and 1,090 females.

Infantile Mortality.—Deaths under one year of age numbered 121 equivalent to a rate of 18.62 per 1,000 live births.

Of the total number of deaths of infants under one year of age, 87 or 71.9 per cent occurred within one week of birth and 91 or 75.2 per cent within the first month. The corresponding rates per 1,000 live births for the two-age groups were 13.39 and 14.00 respectively.

Still-births.—There were 66 still-births equal to a rate of 10.05 per 1,000 of all births (live and still).

STAFF TRAINING

The Senior Health Inspector and his deputy attended an “Effective Reading Course” organized by the Public Service Board at Wollongong Technical College.

Two Health Inspectors attended a course on “Training of Operators of Fluoridation Plants” in September, 1968, at Health Department, Sydney.

Three Child Health Sisters completed the “In-Service Training Course for Community Health Nurses”, July-September, 1968.

COMMUNICABLE DISEASES

TABLE I—NOTIFICATION OF COMMUNICABLE DISEASES AND DEATHS—SOUTH COAST HEALTH DISTRICT—1967–1968

Disease	1967		1968	
	Case	Death	Case	Death
Brucellosis	1	..	2	..
Encephalitis (Viral)	3	2	2	1
Hydatid Disease	1	1	4	..
Infantile Diarrhoea	13	4	10	3
Infectious Hepatitis	437	..	294	1
Malaria	2	..	0	..
Ornithosis	3	..	0	..
Paratyphoid	1	..	0	..
Syphilis	8	..	4	..
Gonorrhoea	48	..	57	..
Tetanus	0	..	1	..
Tuberculosis	87	5	70	1

Infectious Hepatitis

Of the 294 cases reported, 71 came from Imlay Shire, the majority of which occurred in the township of Merimbula. Lack of understanding of the epidemiology of the disease, contributed to inadequate environmental and personal hygiene.

Brucellosis

Two cases were reported from Nowra and Goulburn. With the relatively high incidence of Brucellosis in cattle in part of the district, the true incidence in humans is probably higher than the notifications suggest.

Tuberculosis

In February it came to notice that raw milk from a Tuberculous cow in a T.B. quarantine area had probably been supplied to school children in the Braidwood area. This beast at slaughter was reported to have been infected with widespread tuberculosis, although it showed a negative reaction on Mantoux testing in November, 1965, and January, 1968.

Subsequent testing and retesting of the herds involved at slaughter showed a total of 23 reactors, 14 of which showed visible lesions at slaughter. One showed open T.B. at slaughter.

In November, after a second fully negative herd test, the property was released from quarantine.

During most of the above period pasteurized milk was supplied from Goulburn, but towards the end of the year raw milk from a local herd was again being supplied. Ordinance 63 of the Local Government Act has not been applied to this area despite advice by this Office.

Three hundred and fifty-nine children in the area were subsequently Mantouxed. Three of these gave positive reactions, but X-rays were negative.

Taenia Saginata Infection

Two women of Dutch and Lebanese extraction were reported to this office within 2 weeks of each other suffering from this infestation. The Dutch woman had lived continuously in Australia for 16 years and was in the habit of consuming raw minced steak in the delicacy “steak tartare”.

The Lebanese woman had resided in Australia for only 2 years, and infection might have occurred overseas.

The consumption of raw meats in various forms is probably quite widespread in this area, and infestation could be more common than is apparent.

Smallpox Inoculation

Sixty vaccinations were performed mainly on Ambulance personnel. Reactions were subsequently read and certificates issued.

Diphtheria Survey

A survey was carried out in February to ascertain the diphtheria immunization status of school children (5–12 years age group). Of 5,970 children in 30 schools selected at random throughout the District, 5,034 gave replies. The results are tabulated as follows:

TABLE II—DIPHTHERIA IMMUNIZATION SURVEY

Total No. of children who have had—	No im- munisation at all	Incomplete Primary Course only	Primary Course only	Primary Course and 1 booster	Primary Course and 2 boosters	Replies cannot be interpreted
	493	257	1,667	1,870	618	129
Expressed as a percentage of the total no. replying ..	9·8%	5·2%	33·1%	37·1%	12·2%	2·6%

In view of these findings, the campaign for immunization against diphtheria was stepped up in several ways.

Sabin Vaccine Campaign

Fifty-six thousand four hundred and eighty doses were issued from this Office to Local Authorities of the South Coast Health District.

ENVIRONMENTAL HYGIENE

TABLE III—ROUTINE INSPECTIONS AND INVESTIGATIONS—SOUTH COAST DISTRICT—1967-1968

	1967	1968
Water samples taken—		
drinking	252	232
sewerage	87	89
beach pollution	65	24
river and lake pollution	24	88
swimming pools	21	4
sullage	—	—
Water inspections—		
catchment areas	9	15
chlorination plants	10	2
fluoridation plants	7	13
reservoirs	10	9
filtration plants	—	3
Sewerage works—		
proposed	4	1
in operation	37	38
effluent disposal	30	30
tipping station.. .. .	1	—
Institutions and Aboriginal Settlements—inspection	14	9
Private schools—inspections	2	—
River pollution—surveys	4	8
Beach pollution—surveys	8	5
Investigation of infectious diseases	6	2
Dwellings (under Public Health Act)	104	4
Noxious trades—		
new premises	14	7
shop premises	26	—
reinspection	106	95
Sanitary depots—		
proposed	2	11
inspections	178	110
vehicle inspections	—	9
Camping reserves—inspections	67	60
Alpine lodges	—	12
Migrant hostels	—	1
Septic tank inspections—		
refused	94	80
processed	2,045	2,001
tank inspections	525	263
site inspections	1,688	1,805
Septic tank manufacturing	—	6
Complaints dealt with	73	43
Barber shops—		
inspections	57	12
Health Inspector Group addresses	2	4
Surveys on behalf of local authorities	2	1
Council committees addressed	8	4
Civil organizations addressed	5	8
Sanitary survey	1	—
Slaughtering premises inspected—		
meat	6	35
poultry	—	5
Poultry Abattoirs—waste disposal	3	8
School lighting survey	1	—
Personnel to “In-Service” schools	2	—
In-Service schools carried out	—	7
Dairy inspections	4	15
Scavenging districts investigated	6	1
Rat infestation survey	1	1
New cemetery sites.. .. .	2	1
Unhealthy building land inspections	5	3
Canning factories	—	4
Cheese factories	—	6
Funeral parlours	—	3
Licensed premises	—	4
Lodging premises	—	5
Shop premises	—	4
Skin & hide premises	—	4
Prosecutions	—	4

Comments

The marked reduction in the number of dwellings inspected (see table III) was due to the fact that no house-to-house surveys were carried out in townships during the year.

During the period, staff training was stepped up with the introduction of a series of “In-Service Training Schools”. These schools were opened to industry and Local Government representatives in addition to District Health Department staff. Lecturers for schools were drawn from the Department of Public Health, other governmental departments and private industry. Copies of lectures delivered at schools were distributed to all Health Districts.

Over the past 12 months considerable study has been carried out on a time and motion survey to extend the range and quantity of essential environmental health functions being carried out by Health Inspection staff without increasing overhead costs. This time and motion study has been successful not only in its original objective, but also in creating a greater work interest for staff.

The district continues to be used as a training centre for Health Inspection staff, one officer from Sydney office being seconded to the district each 12 months. The officer at present on secondment returns to Sydney office at the end of January, 1969.

All governmental institutions in the area were inspected during the 12 months period and while institutions were, from an environmental health viewpoint, found to be in good order, it was again necessary to report adversely on the condition of the piggery at Kenmore Hospital.

An outbreak of Infectious Hepatitis at Merimbula during the latter part of the year was fully investigated by departmental officers. Numerous inspections of premises were carried out. These included dairies, smallgoods factory/abattoirs, beach pollution, garbage and sanitary depots, shop premises and households. An address was given on infectious hepatitis and its control to the Merimbula P. & C. Association. This meeting was attended by representatives of the Pambula Hospital Board and Pambula P. & C. Association.

Increased activity by environmental health staff during the period resulted in thirty prosecutions being instituted for serious breaches of the various Acts and Ordinances relative to public health. It should be noted that of these prosecutions eight were related to the conditions at slaughtering premises.

PURE FOOD ADMINISTRATION

TABLE IV—PURE FOOD WORK IN SOUTH COAST HEALTH DISTRICT, 1967–1968

	1967	1968
Milk Samples—		
Number taken	77	62
Below standard	2	6
Warnings .. .. .	..	..
Prosecutions	2	7
Fines and costs	\$123	\$70
Food and Drug Samples—		
Number taken	405	342
Below standard	70	45
Warnings	13	11
Prosecutions	81	37
Fines and costs	\$2,304	\$1,366
Seizure of Food—		
Quantity	360 lb	30 lb 52 tins
Premises—		
Number of inspections	956	1,034
Number of notices issued	75	28
Prosecutions	8	5
Fines and costs	\$506	\$158
General Breaches—		
Prosecutions	23	12
Fines and costs	\$499	\$159
General—		
Complaints investigated	28	25
Interviews, advisings	120	135
Government institutions inspected	11	6
Prosecutions, other acts (Local Govt Act) .. .. .	..	1 x \$22
Total prosecutions	114	62
Total fines and costs	\$3,432	\$1,775

Comment

Due to a resignation, this office was without the services of a food inspector for several months.

An increase in the evasion of food labelling regulations was noted during the year; some examples are given below. Profit making rather than compliance with public health and consumer protection law is the principle concern of some traders:

Dried full cream milk.—Amendments to the standard of powdered milk and handling requirements were gazetted in 1967. To protect the consumer from the loss of volatile constituents of the article, the regulations intended that the article should be packed and sealed by the manufacturer, only.

The amendment therefore in effect prohibits health and bulk food stores from repacking the article (as has been the practice) from large drums into small retail packages. Deterioration of the product results from this procedure.

Some proprietors have continued the practice. To evade regulations under the Pure Food Act (which refer only to articles of food for consumption or use by man) the retail packages of dried full cream milk now appear on sale in the same premises with the words "For Pets Only" on the label.

This is obviously a false claim and proprietors anxiously inform inquiring customers that "there is no difference in the article". Legal proof that it is a false claim or has been done to circumvent the Pure Food Act, may be quite difficult.

Prepacked meat.—Regulations require that prepacked butchers meat (as sold in supermarkets, etc.) must bear the date of packaging on the label.

It has now been found that some stores are withdrawing the prepacked meat from display counters after one or two days. The article is taken out of its original package and repacked with a more recent date on the new package. This defeats the original intention of the Regulation.

Poultry.—Regulations require that the name of the poulterer and address of the killing and dressing establishment be shown on poultry.

Retailers (in order to deceive the public and conceal the name of the processing factory) are removing the original package and displaying the poultry with signs such as "Farm fresh poultry", "Poultry direct from the farm".

Traders indulging in these practices show no interest in explanation of or the reason for the regulations; their only concern is with greater sales and profits. Strict enforcement of the law is the only course available to protect the public.

TUBERCULOSIS

SUMMARY OF WORK CARRIED OUT AT CLINICS DURING 1968

	Wollongong	Shoalhaven (Nowra)	Goulburn	Moruya	Bateman's Bay	Bega	Cooma	Q.V. Hospital Picton	Total
Total Attendances	13,625	785	1,619	266	31	778	544	391	18,039
Proven Pulmonary T.B.	1,012	56	74	8	2	29	16	33	1,230
Proven Extra Pulmonary T.B.	30	1	2	1	..	3	2	1	40
Inactive T.B. (all forms)	1,187	78	242	23	3	54	20	69	1,676
Newly notified T.B. cases	54	..	3	..	..	..	..	2	59
Contacts	7,054	574	295	52	22	178	439	222	8,836
Others	4,288	76	1,003	182	4	514	67	64	6,198
Number of X-rays	7,539	387	753	141	23	275	86	233	9,437
(a) T.B.	2,086	129	696	141	23	275	86	99	3,535
(b) Non T.B.	5,453	258	57	..	..	..	..	134	5,902
Bacteriological Investigation	3,978	4	94	18	4	29	17	4	4,148
Other Services	327	..	208	154	11	518	445	..	1,663
Cases Notified by Clinic	61	..	3	..	..	..	..	2	66
Visits	1,944	79	46	15	1	20	12	48	2,165

Comments

During the year Bega Clinic has been without a Chest Physician. None of the few doctors practising in the area are able to take on the position.

Mass Chest X-ray surveys were conducted in Goulburn and district in February and at Braidwood in November-December.

Following the finding of a tuberculosis cow in a milking herd in the Braidwood area, tuberculin testing of school children was carried out.

Routine tuberculin testing of high school children was also done at Bega, Eden, Moruya, Cooma, and at Queanbeyan.

The 70-mm X-ray unit located at the Wollongong Chest Clinic came into operation in the latter half of the year, an operator/receptionist being appointed for the purpose.

MATERNAL AND CHILD HEALTH

1. Maternal and Infant Care

Two Baby Health Centres were closed during the year, Bigga in November and Island Bend in May.

Two new centres were opened, at Warilla in February and Jindabyne in August.

A replacement centre was opened in Eden in September.

Construction of a replacement centre at Kiama is well advanced and should be ready to open early in 1969.

A conference of Baby Health Centre sisters was held at Warrawong Hospital in May, at which talks were given by Dr M. Freedman, Dr B. Storey, Miss P. Larwood, and Miss J. Moran.

A summary of the work of the centres is shown in the following table:

TABLE VI—ATTENDANCES AT BABY HEALTH CENTRES, HOSPITAL, AND HOME VISITS

Year			Number of centres at December	Total attendances	Individual attendances	Number of mothers seen in hospital	Number of hours of home visiting	Total number of home visits
1967	..	..	53	83,566	11,804	3,168	1,603	3,030
1968	..	..	53	80,602	11,439	4,224	1,880	3,527

It is pleasing to note the better contact made by Sisters with mothers while in hospital, and that more time has been made available for home visiting.

This district has been without the services of an Assistant Nursing Inspector since August, 1968.

2. School Medical Service

School medical examinations in the City of Greater Wollongong and Municipalities of Shellharbour and Kiama are performed by one full-time medical officer, one part-time officer, and two full-time nurses.

In the remainder of the South Coast Health District the work is performed by part-time medical officers and nurses.

Their work is summarized in the following tables.

TABLE VII—MEDICAL EXAMINATIONS IN PRIMARY SCHOOLS

	No. of schools	No. of schools examined	No. of children enrolled	No. of full examinations (A)	No. of review examinations (B)	Total No. of children examined (A + B)	No. of defects notified
Wollongong, Shellharbour, Kiama Municipalities ..	77	40	29,087	4,866	4,825	9,691	1,828
Shires (under Shires Scheme) ..	195	101	21,870	4,922	3,748	8,670	2,201

TABLE VIII—MEDICAL EXAMINATIONS IN HIGH SCHOOLS

	No. of schools	No. of schools examined	No. of children enrolled	No. of review exams		Total No. of children examined	No. of defects notified
				Not Referred to M.O.	Referred to M.O.		
Wollongong, Shellharbour, Kiama Municipalities ..	19	19	12,903	4,900	605	5,505	538
Shires under Shires Scheme ..	33	30	11,356	3,515	474	3,989	260

3. Special Services

A. ATYPICAL CHILDREN

Children who require further investigation are seen, by appointment, at the District Health Office, by the School Medical Officers, who refer them to the appropriate agency if necessary.

In the absence of a Child Health Centre, this aspect of the work is assuming greater importance as is indicated by the following table:

TABLE IX—INTERVIEWS AT DISTRICT OFFICE CONCERNING ATYPICAL CHILDREN

						1967	1968
Total number of interviews	..	..	..	..	..	110	123
Total number of new cases	..	..	..	..	..	101	103

Case Conferences

Supplementing the above service eleven case conferences were held in 1968 on atypical children. These meetings were attended by the School Medical Staff, Psychiatrists, Psychiatric Social Worker, Paediatricians, Speech Therapists, representatives from the Division of Guidance and Adjustment, Headmaster of Greenacres Special School, a Child Welfare Department officer, School counsellors, and the Assistant Director of Special Services, Bureau of Maternal and Child Health.

At these conferences, all relevant details known about an atypical child can be exchanged, to assist in his investigation, assessment and appropriate placement at school.

In 1968, seventy-eight cases were discussed at these meetings, with benefit to the children, and to the participants at the conferences.

B. SPEECH THERAPY CLINIC

From March, 1968, Speech Therapy sub-clinics were conducted fortnightly at Nowra and Moss Vale. These clinics operated until May, when one of the Speech Therapists was transferred to another area.

The need for this decentralized service continues, and it is expected that it will soon be possible to re-open these sub-clinics.

TABLE X—SUMMARY OF WORK PERFORMED AT THE SPEECH THERAPY CLINIC AND SUB-CLINICS

	1967	1968
No. of Initial Interviews	165	130
No. of Individual Attendances	2,297	2,640

The Speech Therapy Clinic was without the services of a second speech therapist from May until August, when a replacement arrived.

In December, the Wollongong Hospital obtained the services of a full-time speech therapist, and the departmental therapists ceased attending the hospital.

C. HEARING CLINIC

This has not operated as such since July, 1966.

Audiograms were performed by the School Medical nurses for the Medical Examination Centre as requested.

Since March, the Commonwealth Acoustic Laboratories have operated a clinic in Wollongong at approximately monthly intervals.

There is a need for a visiting E.N.T. specialist, to provide a complete service to children with defects of the auditory apparatus. Six hundred and forty such children were notified in 1968, in the Wollongong area.

Wollongong Teachers College

This is a non-residential college with a total enrolment of 694 students, made up of Teachers College students, 657; undergraduates, 14; graduates (Diploma in Education), 23.

There is one full-time Medical Officer.

TABLE XI—SUMMARY OF WORK DONE BY COLLEGE MEDICAL OFFICER

Lectures per week (average)	8
Lectures on first-aid (total)	6
Number of examination papers corrected	220
Medical examinations for superannuation	260
Students attending for medical and surgical first-aid	240
Students attending for fitness to resume after sick leave	12
Students attending for counselling	15
Staff attending for first-aid	15

PRIVATE HOSPITALS AND REST HOMES

TABLE XII—PRIVATE HOSPITALS AND REST HOMES

							Numbered licensed	Number of beds
Private Hospitals	..	..	..	..	..	..	5	93
Rest Homes	..	..	..	..	..	..	5	145

One additional rest home of 10 beds, “Mt Warrigal” was opened in January.

Plans were approved by the Board of Health for the conversion of three existing buildings to rest homes.

There is need for more rest home accommodation in this Health District.

MEDICAL EXAMINATIONS

The number of medical examinations performed by this office for the Medical Examination Centre is increasing annually. They include the examination of entrants to the N.S.W. Public Service, and of persons absent from duty because of chronic illness, or Workers’ Compensation injuries.

An increasing number of ex-servicemen are being examined, for claims for rebate of motor vehicle tax, and other travelling concessions.

TABLE XIII—MEDICAL EXAMINATIONS

Year	1965	1966	1967	1968
Number of medical examinations performed at the Office of the South Coast Health District for Medical Examination Centre ..	153	203	207	243

In addition to this figure, 60 students at the Wollongong Teachers College were examined by this office in August-September.

SOCIAL HEALTH

The year 1968 has been an outstanding one in the development of voluntary welfare services in Wollongong.

This office gave advice and guidance to numerous organizations and played an active part on steering and management committees. Some of the organizations so assisted included Wollongong Life Line, Illawarra Retirement Trust, Parents Without Partners, Workers Educational Association, Diabetic Association (Wollongong and South Coast Branch), Marriage Guidance Committee, and Birthright.

The Medical Officer of Health compiled a 1968 Supplement to the Directory of Health and Welfare, listing an additional 40 organizations in the Wollongong area. Some 200 copies were distributed.

MENTAL HEALTH

The two psychiatric out-patient clinics administered by Gladesville Hospital (at Wollongong Hospital and Port Kembla Hospitals respectively) continue to function with a big work load. With no psychiatric beds available locally, these clinics are quite inadequate to meet psychiatric needs here.

INTELLECTUALLY HANDICAPPED

The Regional Advisory Committee has met on several occasions throughout the year to investigate matters referred by the Standing Committee or brought to its notice by local organizations.

HEALTH EDUCATION

This office organized three large seminars during the year on health and welfare work. The principle of including other government departments, hospitals, and various welfare organizations proved very valuable as a means of co-ordinating departmental and community effort.

Some successful training schools organized by the Senior Health Inspector strengthened inter-departmental and public relations considerably.

Assistance was given to bodies in organizing their own Seminars and courses, for example: Life Line (course of training), Inter-Church Trade and Industry Mission (Mental Health Seminar), Workers Educational Association (Course of Training on Community Welfare).

Western Health District

Medical Officer of Health: Dr B. M. NOLAN, L.R.C.P.I., L.R.C.S.I., D.P.H.

Location: Webb's Chambers, 175A George Street, Bathurst 2795

STAFF

(As at 31st December, 1968)

One Deputy Medical Officer of Health, 1 School Medical Officer, 1 School Nurse, 1 Senior Food Inspector, 1 Senior Health Inspector, 2 Health Inspectors, 1 Assistant Nurse Inspector, 13 Baby Health Centre Sisters, 5 Part-time Baby Health Centre Sisters, 3 Tuberculosis Sisters, 1 Public Health Nurse, 1 senior clerk, 1 shorthand/typist, 1 office assistant.

THE DISTRICT

The Western Health District adjoins the Metropolitan, Newcastle, and North Western Health Districts to the east, the south coast and Riverina Health Districts to the south, and Broken Hill District and the Queensland border to the north.

The District comprises the following local authority areas:

Municipalities: City of Bathurst, City of Blue Mountains, City of Orange, City of Lithgow, City of Dubbo, Condobolin, Cowra, Forbes, Mudgee, Narromine, Nyngan, Parkes and Peak Hill.

Shires: Abercrombie, Blaxland, Bogan, Boree, Brewarrina, Canobolas, Cobar, Colo, Coolah, Coonabarabran, Coonamble, Cudgegong, Darling, Gilgandra, Goobang, Turon, Jemalong, Lachlan, Lyndhurst, Molong, Oberon, Rylstone, Talbragar, Timbregongie, Walgett, Warren, Waugoola, Wellington.

VITAL STATISTICS

Population.—The population of the district at 30th June, 1968, was estimated at 274,990. Area of the district is 98,281 square miles.

Live Births.—There were 5,822 live births equivalent to a rate of 21·17 per 1,000 of population. Of these 2,998 were males and 2,824 females.

Deaths.—Deaths numbered 2,851, equivalent to a rate of 10·37 per 1,000 of population. Of these 1,673 were males and 1,178 females.

Infantile Mortality.—Deaths under one year of age numbered 145, equivalent to a rate of 24·91 per 1,000 live births.

Of the total number of deaths of infants under one year of age, 83 or 57·2 per cent occurred within one week of birth and 91 or 62·8 per cent within the first month. The corresponding rates per 1,000 live births for the two age groups were 14·26 and 15·63 respectively.

Still-births.—There were 72 still births, equal to a rate of 12·22 per 1,000 of all births (live and still).

COMMUNICABLE DISEASES

TABLE I—NOTIFIED COMMUNICABLE DISEASES AND DEATHS, 1967–68

	1967		1968	
	Cases	Deaths	Cases	Deaths
Brucellosis	1	..	..	..
Anthrax .. .. .	..	..	1	..
Hepatitis (infectious)	472	2	168	..
Infantile diarrhoea	86	5	58	2
Tuberculosis	42	4	44	7
Virus encephalitis	3	1	4	..
Gonorrhoea	30	..	30	..
Syphilis	19	..	29	..
Hydatid disease	5	2	8	..
Tetanus	3	2	1	..
Diphtheria	2	1	..	..
Malaria	3	..	1	..
"Q" fever	2	..	..	..
Total	668	17	344	9

The number of notifications of infectious hepatitis dropped dramatically during the year.

A reduction in the numbers of notifications of other infectious diseases also occurred except for anthrax, hydatid disease, viral encephalitis, and venereal disease which showed an increase.

There were two deaths from infantile diarrhoea during the year.

Hydatid disease continued to be a considerable problem in this district and intensive attempts at health education were made throughout the year.

An 81-year-old man from Condobolin admitted for treatment to Prince Henry Hospital, Sydney, was notified as a case of anthrax. This man's history stated that a lesion had developed on his forearm after cutting up a calf which had died from anthrax 5 days previously.

A 23-year-old man from Parkes treated at the Royal Prince Alfred Hospital, Sydney was notified as a case of tetanus. His history stated that he had wounded his hand while working on machinery out of doors. He was a mild to moderate case and he had not been immunized.

TUBERCULOSIS CONTROL

TABLE II—TUBERCULOSIS CONTROL WORK, 1967–68

	1967	1968
1. Attendances—		
Proven Pul. T.B.	325	336
Proven Extra Pul. T.B.	2	6
Inactive T.B. (all forms)	882	815
Newly notified T.B. cases	19	20
Contacts	2,735	3,100
Others	1,520	1,391
Total attendances	5,483	5,668
2. No. of X-rays during the year—		
(a) Tuberculosis	1,997	1,964
(b) Non-tuberculosis	416	597
3. Total number of bact. investigations	596	453
4. Other services	504	1,419
5. Number of cases notified by clinic	4	20
6. Visits	1,773	1,368

Mass chest X-ray surveys were carried out in the following local authority areas in 1968: Blue Mountains, Colo Shire, Coolah Shire, and Peak Hill.

ENVIRONMENTAL HYGIENE

The number of school inspections was maintained and continuing improvements in sanitation were seen. Discussions were held with the Area Director of Education and septic tanks are now being installed at schools wherever practical.

During 1968 new sewage works were constructed at Peak Hill, Walgett, Canowindra, and Wallerawang. New works are proposed in the near future at Coolah, Dunedoo, and Brewarrina. The provision of sewerage facilities results in a substantial improvement in environmental hygiene in a township.

Efforts to protect streams and natural watercourses met with some success with a number of authorities agreeing to install treatment plants of various types.

One of the major problems of the district is the provision of housing for Aborigines and improvement of sanitation on existing reserves. Although some progress was made in this sphere the standard of hygiene on reserves and settlements is very poor and the demand for housing far exceeds the supply.

The selection and recommendation of suitable sites for nightsoil and garbage depots resulted in eighteen such sites being approved by the Minister for Health.

Several matters not previously dealt with received attention during 1968. Instances of unsatisfactory handling of dangerous substances were investigated and the testing of ventilation of public halls carried out. A detailed investigation was made of a proposed reduction of earth cover in graves with a report to the Board of Health. Enquiries were made into the use of 1080 poison in water catchment areas.

Town water supplies received attention and a major success was the decision by Bathurst City Council to provide a water filtration and treatment plant for its district. A number of other town agreed to improve water supplies on the advice of the Department.

Regular inspections of swimming pools were made and new pools were established at Tottenham, Lawson, and Collarenebri.

Health Education services were maintained with lectures to groups such as nurses, Apex, Rotary, etc. Good liaison and co-operation was continued with other government departments and local councils in the district.

TABLE III—ENVIRONMENTAL HYGIENE INSPECTIONS, 1967-68

	1967	1968
Inspection and reinspection of towns and villages	21	10
Government institutions and aborigine reserve inspections	19	30
Inspections of buildings, hotels, public halls, hospitals, theatres, dwellings, barber shops, and schools	210	207
Abattoirs inspected	8	5
Inspection of public amenities, camping grounds, parks, reserves, swimming pools	138	120
Joint inspections (Public Works Dept)	14	15
Investigation of infectious diseases and nuisances	69	86
Trade waste disposal and water pollution investigations	15	16
Noxious Trade premises inspected	194	154
Garbage and nightsoil depot inspections	165	121
Garbage and nightsoil, new sites recommended to Minister for approval	13	18
Investigation of water supplies and inspection of water treatment works	80	61
Water samples collected for analysis	58	94
Sewerage treatment works sites, existing and proposed	43	27
Court attendances	7	5
Septic tanks—towns and villages re proposed mass installations	5	1
Septic tank sites existing and proposed	995	919
Septic tank applications dealt with	1,146	1,176

PURE FOOD ADMINISTRATION

During the year food work continued in much the same manner as last year. The standard of hygiene of food premises continued to improve but it became more difficult to maintain the standard since the Department decided not to replace the Food Inspector who was transferred to the Riverina Health District in July. This difficulty was added to by the delay in the appointment of a Health Inspector whose duty was to consist of both sanitation and food work.

Due to the large area of this district only infrequent visits were made. This caused some concern among some Local Government Inspectors who felt that they needed assistance and advice from a Food Inspector. Owing to lack of staff campaigns concerning various aspects of food handling and manufacture could not be continued as in previous years. Sporting meetings and shows had to be by-passed and work became confined to routine work and complaints.

TABLE IV—PURE FOOD INSPECTIONS, SEIZURES, PROSECUTIONS AND FINES, 1967-68

	1967	1968
Milk Samples—		
Number of milk samples taken for analysis	247	196
Number of samples below standard	21	10
Number of warnings issued	8	6
Number of prosecutions	8	10
Amount of fines and costs	\$222	\$235
Food and Drugs (other than milk)—		
Number of samples taken for analysis	261	180
Number of samples below standard	20	22
Number of warnings	11	14
Number of prosecutions	20	23
Amount of fines and costs	\$621	\$490
Seizures—		
Quantity of food and drugs unfit for human consumption seized and destroyed	491 lb	746 lb
Premises—		
Number of inspections of premises (food and drug)	1,826	2,310
Number of notices issued	247	310
Number of prosecutions for unclean premises	2	3
Amount of fines and costs	\$84	\$106
General breaches of the Act and Regulations—		
Number of prosecutions	24	\$30
Amount of fines and costs	\$563	\$897
Other matters—		
Liquor examined (bottles)	940	2,626
Meat examined	501	559
Inspection of departmental hospitals	1	1
Inspection of child welfare and prison estates	6	5
Any other work undertaken—		
Complaints	66	55
Enquiries, investigations and interviews	793	985
Shows, races, etc.	13	4
Prosecutions recommended	34	45

MATERNAL AND CHILD HEALTH

1. Maternal and Infant Care

TABLE V—ATTENDANCES AT BABY HEALTH CENTRES AND VISITS TO HOSPITALS AND HOMES, 1967–68

	1967	1968
Number of attendances at centres	62,759	62,736
Individual attendances at centres	4,422	8,217
Hospital visits	3,632	3,532
Home visits (hours)	870	1,704½

TABLE VI—WORK PERFORMED BY ASSISTANT NURSE INSPECTOR (MATERNAL AND INFANT CARE)

	1967	1968
Inspections of Baby Health Centres	50	18
Interviews with committees	14	11
New Baby Health Centre buildings	2	1
Council interviews .. .. .	..	3

One new Baby Health Centre opened at Nyngan and the Centre at Walgett was replaced with a new centre. The baby health centre at Tottenham was re-opened and the centre at Wyangala Dam closed due to completion of the construction of the new dam. There are now 52 baby health centres in the district.

2. Child Health

TABLE VII—SUMMARY OF WORK PERFORMED BY SCHOOL MEDICAL OFFICER AND NURSE, 1967–68

	1967	1968
Primary School—		
Full examinations by Medical Officer	3,489	3,160
Review examinations by Medical Officer and Nurse (all grades)	3,836	86
Review examinations conduct by nurse (4th grade only) .. .. .	..	275
Secondary School—		
Full examinations (2nd form where applicable) .. .. .	..	..
Review examinations—not referred to Medical Officer .. .. .	..	376
Referred to Medical Officer .. .. .	..	15

The departmental school medical team consisting of one school medical officer and one nurse examined a total of 3,912 children and notified 514 defects. The majority of these defects were vision, hearing, skin, and teeth.

There were thirty-seven parent interviews carried out by this team during the year.

TABLE VIII—SUMMARY OF EXAMINATIONS CARRIED OUT UNDER SHIRES SCHEME, 1967–68

	1967	1968
Primary School—		
Full examinations by Medical Officers	8,109	8,492
Review examinations by Medical Officer and nurse (all grades including 4th grade)	4,407	3,208
Review examinations conducted by nurse (4th grade only) .. .. .	..	855
Secondary school—		
Full examinations (2nd form where applicable) .. .. .	..	392
Review examinations—not referred to Medical Officer .. .. .	..	1,979
Referred to Medical Officer .. .. .	..	486
Total	12,516	15,412

The service was provided in the Shires Scheme and examined a total of 15,412 children and 4,173 defects were notified. The majority of defects were vision, hearing, nose and throat, teeth, skin, development and nocturnal enuresis. During this work 321 parent interviews were conducted.

3. Special Services

Three diagnostic teams from Parramatta, Eastern Suburbs, and Yagoona Child Health Centres visited Orange, Dubbo, and Cowra respectively. The visit of these teams was much appreciated by school counsellors, teachers, parents, and general practitioners in the towns concerned.

SABIN ORAL VACCINE CAMPAIGN

TABLE IX—SABIN ORAL VACCINE FIGURES, 1968

Age group						1st dose	2nd dose	3rd dose
0-4 years	..	..	..	..	..	4,178	4,753	5,963
5-19 years	..	..	..	..	..	1,642	2,520	4,047
20-39 years	..	..	..	..	..	5,770	10,772	13,593
40 years and over	..	..	..	..	..	1,457	2,016	2,417
Total						13,047	20,061	26,020

PRIVATE HOSPITALS AND REST HOMES

TABLE X—INSPECTIONS UNDER PRIVATE HOSPITALS ACT

Inspections											1967	1968
Private Hospitals	..	..	..	..	..	..	..	..	..	..	21	26
Rest Homes	..	..	..	..	..	..	..	..	..	..	38	43

Three Private Hospitals closed during the year and one rest home surrendered its licence. Extensions have been made to one rest home. There are now 10 private hospitals with 109 beds and 84 cots, and 16 rest homes with 538 beds and 31 cots. Total for district being 647 beds and 115 cots.

MEDICAL EXAMINATIONS

TABLE XI—TYPES OF MEDICAL EXAMINATIONS, 1967-68

Type								1967	1968
Permanent appointment	..	..	..	..	..	..	..	24	45
Ex-Servicemen	..	..	..	..	..	..	..	4	6
Fitness for duty	..	..	..	..	..	..	..	3	3
Special cases	..	..	..	..	..	..	..	1	1
Total	..	..	..	..	..	..	..	32	55

PUBLIC HEALTH NURSE, WALGETT

The work of this nurse continued during the year along the same pattern as previous years. She is involved in many aspects of public health work such as ante- and post-natal care, infant and child health, aborigine health and welfare, tuberculosis, geriatrics and mental health and school work. Much of this nurse's work is invaluable to the promotion of public health within the community and cannot be set down in report form.

An infant welfare clinic was conducted on one whole day per week and a pre-natal clinic for half a day per week throughout the year.

The Health Centre in which the nurse works was open each day from 9 a.m.-9.30 a.m. for inquiries. Weekly visits were made to the hospital and aboriginal station and reserves. Other visits were made to schools and homes and the home for aged on demand.

Two-monthly visits were made to the towns of Carinda, Collarenebri, Lightning Ridge and Burren Junction.

The nurse has maintained good liaison and co-operation with the local council, general practitioner and voluntary associations.

OCCUPATIONAL HEALTH

Officers from the Division of Occupational Health conducted cholinesterase tests on agricultural workers in the district. There was a noticeable increase in requests for advice on agricultural health problems from general practitioners in the district during the year.

MENTAL HEALTH

The Sheltered Workshop at Bathurst, after overcoming some initial defects was able to obtain sufficient work and provide employment for twenty persons. The Medical Officer of Health, as Chairman of the Enrolment Committee, carried out parent interviews prior to employment.

MISCELLANEOUS ACTIVITIES

Lectures on Public Health and Social Medicine were given by health district officers to nurses at the Bathurst District Hospital.

During the year the officers of the N.S.W. Ambulance Transport Board throughout the district were vaccinated against smallpox.

A Western Health District Health Surveyors Conference was held at Gilgandra and lectures were given on the use of insecticides and package sewage treatment works.

The Western Health District Community Nurse Conference was held at the Bathurst District Hospital and lectures were given on Infant Welfare Services, nutrition and the prevention of poisoning in children.

North Coast Health District

Medical Officer of Health: J. R. WHITFELD, M.B., B.S., D.P.H.

Location: 188 Molesworth Street, Lismore

STAFF

Deputy Medical Officer of Health, 2 Medical Officers (Child Health), 2 School Nurses, 2 Tuberculosis Nurses, 1 Senior Health Inspector, 2 Health Inspectors, 1 Senior Food Inspector, 1 Food Inspector, 1 Assistant Nurse Inspector, 8 Baby Health Centre Sisters, 1 Speech therapist, 1 clerk, 1 shorthand writer/typist, 1 office assistant.

DISTRICT

The North Coast Health District comprises the following local authority areas:

Municipalities: Ballina, Casino, City of Grafton, City of Lismore, Mullumbimby.

Shires: Bellingen, Byron, Coffs Harbour, Copmanhurst, Gundurimba, Kyogle, Maclean, Nambucca, Nymboida, Terania, Tintenbar, Tomki, Tweed, Ulmarra, Woodburn.

VITAL STATISTICS

Population.—The population of the district at 30th June, 1968, was estimated at 155,040.

Live births.—There were 2,737 live births in the district, equivalent to a rate of 17·65 per 1,000 of population. Of these 1,396 were males and 1,341 females.

Deaths.—Deaths numbered 1,471 equivalent to a rate of 9·49 per 1,000 of population. Of these 835 were males and 636 females.

Infantile mortality.—Deaths under one year of age numbered 50, equivalent to a rate of 18·27 per 1,000 live births.

Of the total number of deaths of infants under one year of age, 41 or 82·0 per cent occurred within one week of birth, and 42 or 84·0 per cent within the first month. The corresponding rates per 1,000 live births for the two age groups were 14·98 and 15·35 respectively.

Stillbirths.—There were 24 stillbirths in the district equal to a rate of 8·69 per 1,000 of all births (live and still).

ENVIRONMENTAL HYGIENE

Joint inspections with the officers of Public Works Department were undertaken on proposed installation of septic tanks and effluent disposal at schools, school residences, and police stations. Inspections were carried out on beach reserves on behalf of the District Land Board. Other joint inspections with Housing Commission Officers, regarding siting of dwellings to enable septic tank installations were also made. Upon receipt of advice from School Medical Officers, inspection of school sanitary facilities were made and recommendations forwarded to the Education Department regarding necessary repairs.

Problems of a major nature are being encountered regarding large development scheme such as water supply, effluent and sullage disposal, drainage and scavenging districts. These developments are Wendell West Ocean Shores in the Byron and Tweed Shires, Shaws Bay in the Ballina Municipality, various headland developments in Coffs Harbour Shire, and a proposed scheme at Scotts Head in the Nambucca Shire.

Special surveys into the Rous County Council, and the Scotts Head water supply were conducted. An extensive survey into the Lismore sewage treatment works discharge of effluent into the Richmond River was also completed. A sanitary survey of Mullumbimby Municipality was carried out; and at Ulmarra Shire as the result of a resurvey, followed by a meeting with the full council a decision, to employ a full time Health Inspector, was made.

Stream pollution occupied a considerable time in regard to two abattoirs, one smallgoods factory, a brewery, milk factories, and sewage treatment works. Continued pressure had to be brought to bear on two milk factories to cease drawing water from the river and to use the town reticulated supply.

Work has been completed at sewage treatment works at Bowraville, Junction Hill, and Coraki, whilst work has commenced at Bonalbo, Woodenbong (Pasveer Ditch type), Macksville and Dorrigo.

Considerable time was expended in conjunction with a prosecution for the illegal construction of a septic tank, four attendances at court were necessary, the magistrate found in favour of the Department. However the plaintiff has now appealed to the Supreme Court.

A successful Medical Officer of Health Conference was held at Ballina and health surveyors from all local authorities attended. Subjects covered at the conference were infectious disease, food poisoning, food handling, caravan parks, vermin control, and garbage disposal.

Aboriginal settlements received much attention during the year particularly Baryulgil, where the work force for the open cut asbestos mine reside. A new safe water supply is being provided and the planning stage has been reached for the construction of two community toilet and ablution blocks.

Difficulties were experienced with a Queensland Company's proposal to construct a crematorium at Tweed Heads.

A proposal by one council to subdivide a sanitary and garbage depot, which had only been closed a year necessitated an urgent visit by the Departmental Surveyor to have the area declared under section 55, Public Health Act. An inspection of the Health District was made by the Chief Health Inspector during July. Mr Robbins of the Government Analyst staff visited the area to give technical assistance regarding a proposal by the county council to reduce the high iron content of the Rocky Creek Dam.

TABLE I—INSPECTION WORK CARRIED OUT IN 1968 WITH COMPARATIVE FIGURES FOR 1967

Work carried out	1967	1968
Septic tanks (proposed and existing)	1,318	1,280
Noxious trades	107	142
Sanitary depots	239	322
Business premises	4	33
Water supplies and samples	276	361
Sewage treatment works (proposed and existing)	49	74
Camping reserves	12	15
Aboriginal reserves	3	7
Scavenging districts	2	2
Complaints	36	65
Other inspections	368	239
Liaison with architects, engineers and joint inspections	73	100

PURE FOOD ADMINISTRATION

TABLE 2—INSPECTIONS AND WORK CARRIED OUT, 1968

	1967	1968
Premises inspected	822	481
Warning notices issued	49	62
Samples for analysis	249	261
Prosecutions	5	21
Food placed under seizure	1,586 lb	1,013 lb

During the first 6 months of the year this branch was without the services of a food inspector. Mr B. N. Tallon was appointed as Food Inspector to this branch on the 3rd June, 1968, and consequently an appreciable amount of his time has been spent with the Senior Food Inspector. As a result the number of inspections was reduced but there has been a considerable increase in the number of prosecutions.

Advice has been given to various people and organizations intending to commence factories within the area. Talks have been given upon request to area branches of the meat industry, dairy Industry including milk vendors, factory management and foremen, bread industry, and officers of Department of Agriculture.

The problem of "returned bread" (bread returned to bakeries from shops, clubs, hotels, etc.) has ceased within the North Coast Health District without the assistance of any form of legal action. The difficulty was overcome by calling a meeting of all persons or companies conducting bakery businesses. The meeting was addressed by the Senior Food Inspector whereon it was resolved by all the members present that no person or company would receive back into any bakery any bread after delivery.

Communicable Diseases

TABLE 3—NOTIFIED COMMUNICABLE DISEASES AND DEATHS, 1967-1968

	1967		1968	
	Cases	Deaths	Cases	Deaths
Brucellosis	3	..	2	..
Diphtheria .. .. .	..	..	4	..
Encephalitis viral	1	..	2	2
Infantile diarrhoea	13	8	10	2
Infectious hepatitis	171	..	65	..
Leptospirosis	5	..	6	..
Malaria	1	..	5	..
Ornithosis .. .. .	..	..	1	..
"Q" fever	1	..	..	..
Tetanus	1	1	1	1
Typhoid .. .. .	..	..	1	..
Tuberculosis	53	1	26	2
Syphilis	3	..	4	..
Gonorrhoea	50	..	39	..

Diphtheria.—Four cases of diphtheria were reported during the year and subsequent investigation of 350 contacts, detected 23 carriers, a big percentage of whom were Aborigines. The carrier rate amongst the contacts was 6.6 per cent. It was necessary for many of the carriers to be admitted to hospital to ensure adequate treatment. Commonwealth Health Laboratories, Lismore, offered to carry out all the necessary bacteriological examinations, so results were obtained with a minimum of delay. School Medical Staff, Assistant Nurse Inspector and Health Inspectors, assisted the Medical Officer of Health in following up cases and contacts and conducting immunization clinics at various schools and aboriginal reserves.

A survey of the immunization status of primary school children against diphtheria was carried out at 23 schools throughout the district. The results of this survey showed that 45 per cent were fully immunized, 48 per cent had received a primary course of injections but no booster, and 7 per cent were either not immunized or had only received one or two injections. Eighty per cent of the children received their immunization from their own doctor, 8 per cent at council clinics, and 12 per cent by combination of council clinics and their own doctor.

Typhoid Fever.—One case who worked in a butcher shop was reported during the year but careful follow-up of other employees, contacts, and families did not reveal the source of the infection. Contacts of another case occurring outside the Health District were followed up.

Meningococcal Meningitis.—Three cases of meningococcal meningitis were reported amongst the Aboriginal children at a reserve. Chemoprophylaxis was given to all adults and children at the reserve and no further cases occurred.

Infectious Hepatitis.—There was a marked drop in the number of cases notified during the year. Of the 65 cases noted, 13 occurred in one small town.

Ring worm of the body.—An epidemic of ring worm was investigated at a school where more than 50 per cent of the children were affected. Although appropriate measures were taken the re-infection rate was high but with the advent of the school holidays, the epidemic ended.

Venereal Disease.—Thirty-nine cases of gonorrhoea and 4 cases of syphilis were notified. In 60 per cent of the cases however, the source of infection was not given or could not be located because of insufficient information. Investigations still indicate a high incidence of venereal disease amongst Aborigines, in two areas. With the assistance of officers of the Aboriginal Welfare Board, suspected cases have been referred to local hospitals for investigation.

Immunization

Distribution of Sabin Vaccine to councils has continued and Baby Health Centre Sisters have assisted councils in conducting clinics particularly in remote areas of the district.

Smallpox vaccination of Ambulance Officers was carried out during the year.

Immunization of Aborigines at six stations and reserves was carried out at regular intervals throughout the year. Ninety-seven children immunized against poliomyelitis; 127 immunized against whooping cough, diphtheria, and tetanus; 274 immunized against diphtheria and tetanus; and 189 immunized for tetanus.

Tuberculosis Control

Twenty-six cases of pulmonary tuberculosis were notified during the year compared with 53 in 1967. There was a 36·8 per cent increase in attendances at Chest Clinics and this increase is no doubt due to the mass miniature radiographic survey of 1967.

The Chest Clinic Sister at Grafton resigned in January and clinics in this area were closed for 4 months until a new Sister was appointed.

Lack of time and staff prevented routine Mantoux testing of high school children being carried out. However, the children and staff of one school were investigated as contacts of a case.

Physicians were appointed to both Murwillumbah and Macksville Chest Clinics during the year and this change from sub-clinics to Chest Clinics has greatly improved the service to patients in these areas.

TABLE 4—ATTENDANCES AT CHEST CLINICS AND SUB-CLINICS, 1967 AND 1968
Percentage increase for 1968—36·8 per cent

Clinic	1967	1968
Lismore	1,393	2,305
Casino	264	821
Murwillumbah	727	957
Kyogle	161	445
Grafton	678	425
Coffs Harbour	269	78
Macleay	114	46
Macksville	197	100
Total	3,803	5,177

Occupational Health

Problems in the occupational health field were investigated during the year in conjunction with officers of the Occupational Health Division. The problems investigated included asbestosis hazard at the Baryulgil mine; silicosis as a risk at the beach sand mining companies working on the north coast; possibilities of a radiation problem in the trace metals produced as a side line in the zircon industry; exposure to dieldrin by timber workers spraying timber for export at Coffs Harbour; potential arsenic hazard at Casino timber works; inspections of brick yards in the Lismore area and battery manufacturer at Grafton; a survey of staff of the Board of Tick Control Laboratory who handle organic pesticide concentrates and an X-ray survey of workers in a quarry at Iluka.

CHILD HEALTH

School Medical Service

Routine examination of children at primary and secondary level has been carried out at the majority of schools in the district and more time has been allocated to the problems of atypical children. As a result, the number of pre-school clinics has been reduced. Schools in the Tweed Shire continue to be examined under the Shires Scheme.

A one-day conference of school medical staff was held in Lismore and officers have attended in-service training courses in Sydney during school holidays. These have been of immense assistance to the school medical officer working in comparative isolation in Health Districts.

One Child Health Nurse attended the in-service training course for Public Health Nurses and obtained her certificate.

TABLE 5—SCHOOL MEDICAL SERVICE

	1967	1968
Schools—		
Schools examined	115	152
Full examinations	3,633	4,118
Review examinations	9,550	10,114
Defects notified	1,296	1,128
Pre-School—		
Number of clinics held	120	70
Number of children seen	853	495
Atypical clinics—		
Children examined	118	143
Referrals to Diagnostic Team	89	76
Tweed Shire Scheme—		
Schools examined	26	47
Full examinations	719	960
Review examinations	1,855	1,906

Speech Therapy

Speech Therapy clinics were held at Lismore, Murwillumbah, and Grafton, and a survey was conducted in the Coffs Harbour area.

The Speech Therapist visits the rehabilitation centre at St Vincents Hospital, Lismore, two half-days a week.

During the week of the Christmas school holidays a special group class was held for stammerers. Seven boys attended the group and activities included outside visits to factories and places of interest. The Child Health Nurse at Lismore assisted the Speech Therapist during the week of this class.

TABLE 6—SPEECH THERAPY CLINICS

	1967	1968
Assessments and case histories.. .. .	268	161
Reviews and review interviews.. .. .	90	138
Attending follow-up	139	61
Number of cases referred	258	144
Individual attendances	1,060	961

Atypical Children

During the year, diagnostic teams from Ryde and Chatswood Child Health Centres visited Lismore and Coffs Harbour and investigated 76 children. Since the visit of the teams, the school nurse has been allocated time to follow-up these cases by school and home visits. Also, special clinics were held for atypical children and 143 children were assessed.

MATERNAL AND INFANT CARE

There has been an increase in the amount of time spent on home visiting and circuits have been adjusted in some instances to include visits to Aboriginal stations. This increase in home visiting has been made possible by Sisters being allowed to use their own cars and the provision of departmental cars where possible.

All Aboriginal stations and reserves in the district are now visited by a Baby Health Centre Sister.

A pool of local Sisters available to relieve during holidays and sickness has been formed and it is now possible to provide relief for most circuits in the district.

TABLE 7—BABY HEALTH CENTRE STATISTICS, 1968

Total attendances	..	..	..	..	..	..	..	..	..	..	30,269
Under 1 year	..	..	..	..	..	..	..	..	..	..	24,504
Over 1 year and under 2 years	..	..	..	..	..	..	..	..	..	..	2,655
Over 2 years	..	..	..	..	..	..	..	..	..	..	3,110
Total babies attending for first time	..	..	..	..	..	..	..	..	..	..	2,181
Under 1 year	..	..	..	..	..	..	..	..	..	..	2,041
Aborigines	..	..	..	..	..	..	..	..	..	..	58
Migrants	..	..	..	..	..	..	..	..	..	..	38
Home Visiting—											
Total time spent home visiting	..	..	..	..	..	..	..	..	..	..	724½ hours
Number of first visits	..	..	..	..	..	..	..	..	..	..	441
Number of subsequent visits	..	..	..	..	..	..	..	..	..	..	496
Mothers seen in Hospital	..	..	..	..	..	..	..	..	..	..	2,206
Number of individual attendances	..	..	..	..	..	..	..	..	..	..	4,760
Number of days Baby Health Centres closed—											
Public and local holidays, sickness and Baby Health Centre Sisters' Conference	..	..	..	..	..	..	..	..	..	..	94 days

PRIVATE HOSPITALS

The Glyndon Private Hospital at Grafton closed, and the number of rest home beds has been increased to 101 with the opening of "Holroyd" House at Coffs Harbour. Extensions to the "Maranoa" Rest Home in Lismore are under construction, and a new geriatric wing at St Vincents Hospital, Lismore, will commence in 1969. Sixteen routine inspections of rest homes were made. Advice has been given to a number of people proposing to build rest homes in the district.

MENTALLY HANDICAPPED

The Regional Advisory Committee for the Intellectually Handicapped of which the Medical Officer of Health is a member, visited various schools and sheltered workshops and held discussions with local sub-normal children associations.

Specific problems of individual cases are now being referred to this Department and School Medical Officers and Speech Therapist have visited various special schools to carry out assessments. It is intended during 1969, for more mentally handicapped children to be medically assessed and an up-to-date register kept.

HEALTH EDUCATION

A team from the Division of Health Education visited Lismore and discussed health education activities and techniques with members of the staff. The need for a health education officer in the district was considered and more effective and economical distribution of pamphlets and books was discussed. Health education activities have included press, radio, and television releases, weekly broadcasts on child health, lectures at regional training schools for nurses and talks to various groups and schools. Health exhibits have been organized at north coast trade fairs; and shows in conjunction with local authorities, and health education equipment has been lent to other government departments, local authorities, and associations who have assisted in health education programmes. During health week a series of daily radio talks were given by various officers.

VISITORS

Visitors to the district during the year included the Director General; the Director of the Bureau of Maternal and Child Health; the Assistant Director, Section of Child Health; the Chief Health Inspector; the Chief Food Inspector; the Senior Speech Therapist; and officers from the Division of Health Education, Occupational Health, Government Analyst Branch and the Surveyors Branch.

North Western Health District

Medical Officer of Health: Dr J. HENSON, B.A., M.B., Ch.B., D.P.H., D.T.M.&H.

Location: Guy Kable Memorial Arts Building, Marius Street, Tamworth

STAFF

One Deputy Medical Officer of Health, 1 School Medical Officer, 1 Senior Health Inspector, 1 Senior Food Inspector, 2 Health Inspectors, 2 Tuberculosis Clinic Sisters, 1 Assistant Nurse Inspector, 1 School Nurse, 1 Speech Therapist, 1 clerk, 1 shorthand/typiste, 1 office assistant.

THE HEALTH DISTRICT

There are nine municipalities and twenty-one shires in the district. There have been no changes in the boundaries or number of local authorities. In 1968, the Dumaresq Shire Council appointed a health inspector, so that thirteen councils now employ joint health inspectors; and fifteen are served by one or two, or even three health inspectors of their own. Nundle Shire Council decided in 1968 to seek the appointment of a joint health inspector. The Liverpool Plains Shire Council has not yet decided to appoint a health inspector.

There has been a gratifying increase during the past few years in the interest displayed by local authorities in health matters. They are now trying to be as co-operative as they can in every phase and sphere of health work. This has been of great assistance in developing existing services and the creation of new ones which local authorities have been quick to appreciate. There has also been a real and pleasing awakening of interest by the public in health affairs.

VITAL STATISTICS

Population.—The estimated population of the district in June, 1968, was 161,550.

Live births.—There were 3,543 live births in this district, equivalent to a rate of 21·93 per 1,000 population. Of these, 1,820 were males, and 1,723 females.

Deaths.—Deaths numbered 1,430, equivalent to a rate of 8·85 per 1,000 population. Of these, 872 were males, and 558 females.

Infantile mortality.—Deaths under one year of age numbered 77, equivalent to a rate of 21·73 per 1,000 live births. Of the total number of deaths in infants under one year of age, 57 or 74·0 per cent occurred within one week of birth, and 61 or 79·2 per cent within one month. The corresponding rates per 1,000 live births for the two age groups were 16·09 and 17·22 respectively.

Still births.—There were 35 still births in the district, equivalent to a rate of 9·78 per 1,000 of all births (live and still).

TABLE I—ENVIRONMENTAL HYGIENE INSPECTIONS

	1967	1968
Aboriginal stations and reserves	16	7
Public amenities	51	128
Dwellings and shops	319	143
Public institutions	68	30
Licensed premises	113	34
Meat supplies	26	20
Noxious trades	172	170
Complaints investigated	30	41
River pollution	6	9
Refuse disposal	227	237
Samples for investigation	167	160
Sanitary surveys (towns and villages)	42	9
Septic tanks	548	576
Sewage treatment works	38	35
Water supplies	66	42
Other inspections	396	63

Environmental hygiene on Aboriginal Stations and Reserves has improved where the Aborigines Welfare Board had agreed to implement our recommendations. However, with the envisaged change in administration of Aboriginal affairs, matters are somewhat in a state of flux.

Conditions at showgrounds, caravan parks, and swimming pools are improving steadily as more attention is being devoted to public toilets, testing of swimming-pool water, chlorination, etc.

Dilapidated dwellings and unauthorized structures are often encountered, especially in the smaller towns. Councils have been advised to make regular inspections of dwellings in their districts in terms of section 57 of the Public Health Act. Where this has been done, improvements have resulted and even new homes have been built.

Small slaughtering premises have received special attention, and some improvements have resulted. The position is not satisfactory with particular reference to meat inspection. Fortunately, most meat supplies are now obtained from the regional abattoirs.

Improvements have been effected to noxious trades premises mainly through the efforts of this Office. Generally speaking, local authorities seem to be reluctant to inspect such trades on a regular basis.

One of the features in this Health District are the ponds at the abattoirs at Moree, Jennings, and Guyra for the treatment of abattoir wastes. They are producing satisfactory final effluents for disposal into watercourses; and where used for irrigation purposes have brought considerable benefits to agriculturalists.

Water supplies have received considerable attention with particular reference to filtration and chlorination of waters drawn from rivers where contamination is likely to occur. Local authorities have been alerted to the dangers of ground pollution in catchment areas. Councils have been advised to refuse all requests for boating, fishing, and swimming in dams used for public water supplies.

Circumstances in Wee Waa and the adjoining cotton-growing areas are most unsatisfactory, as shown by sanitary surveys, and special investigations into workers accommodation and medico-social conditions. During the cotton-growing season, the turnover in population can be as high as 6,000; whereas the local population is usually about 1,800. Hundreds of unauthorized structures appear along stock routes and roads, under bridges and along the banks of the Namoi River. Even where workers are accommodated in specially built premises, overcrowding is the order of the day. Crime and other social evils, such as drinking, prostitution, venereal disease, etc., have increased out of all proportion. All these matters are known to the authorities concerned; and unless the problems in Wee Waa are tackled at the roots, it will soon become a "depressed area". One of the solutions is the provision of motel-style accommodation to attract the better and more reliable type of worker.

Bricks from a disused arsenic mine near Emmaville were found to contain dangerous amounts of arsenic and the public was warned not to use or buy them.

Mungindi is almost certain to have the first Pasveer Oxidation Channel installed in this district to treat its sewage.

PURE FOOD ADMINISTRATION

TABLE II—FOOD INSPECTIONS

					1967	1968
Premises—						
Inspections (food and drugs)	..	..	..	..	896	762
Warning notices issued	..	..	..	..	31	20
Prosecutions for unclean premises	..	..	..	..	6	3
Fines, \$280; costs, \$6	..	..	..	..	\$210	\$286
Milk—						
Samples for analysis	..	..	..	..	174	255
Samples below standard	..	..	..	..	21	19
Warning notices issued	..	..	..	..	12	3
Prosecutions	..	..	..	..	9	17
Fines, \$384; costs, \$34	..	..	..	..	\$168	\$418
Foods and Drugs—						
Samples for analysis	..	..	..	..	236	154
Samples below standard	..	..	..	..	28	29
Warning notices issued	..	..	..	..	14	10
Prosecutions	..	..	..	..	14	19
Fines, \$421; costs, \$38	..	..	..	..	\$352	\$459
General breaches of the Act	..	..	..	..	3	..
Other matters—						
Complaints investigated	..	..	..	..	17	19
Spirits tested locally	..	..	..	..	430	122
Meats tested locally	..	..	..	..	129	123
Institutions inspected	..	..	..	..	6	4
Seizures of unfit food	..	..	..	..	5,151 lb	8,457 lb

About 15 per cent of food samples submitted for analysis were found to be below standard. These were dealt with by warning notices or legal action. Many food premises of the older types do not even comply with the basic requirements of the Pure Food Act and Regulations. However, where Council Health Inspectors are willing to co-operate, it has been possible to effect improvements and to maintain them. As gastro-enteritis is closely related to unhygienic practices in food handling, many more outbreaks of food-poisoning must have occurred than the few that came to the notice of the Department.

A survey of the presence of antibiotics in milk supplies was commenced in July, 1968. So far only two out of ninety-six samples taken showed traces of antibiotics.

PERSONAL HEALTH SERVICES

TABLE III—COMMUNICABLE DISEASES

Diseases notified	1967		1968	
	Cases	Deaths	Cases	Deaths
Anthrax	1	..	..	..
Encephalitis, viral .. .. .	..	..	1	1
Hydatid .. .. .	..	..	1	..
Infectious hepatitis	240	2	121	..
Infantile diarrhoea	33	3	19	4
Leptospirosis	1	1	1	..
Malaria	1	..	5	..
Q Fever	3	..	..	..
Tetanus	2	..	..	..
Tuberculosis	*18	4	†10	..
Venereal diseases—				
Gonorrhoea	60	..	49	..
Syphilis	11	..	1	..

* Including 3 reactivated cases.

† Two extra-pulmonary, 1 of these due to atypical organism.

There has been a notable decrease in the number of diseases notified. In the case of infectious hepatitis, it is probably a cyclical phenomenon. There were no severe outbreaks. As usual, the largest number of cases of gonorrhoea occurred among itinerant workers in Wee Waa, although fewer cases of syphilis were notified. The five cases of malaria were all imported.

TABLE IV—ATTENDANCES AT TUBERCULOSIS CLINICS

	1967	1968
Proven pulmonary tuberculosis	234	234
Extra-pulmonary tuberculosis .. .. .	..	153
Inactive tuberculosis	316	403
Contacts	1,221	1,216
Other attendances	1,092	1,125
Mantoux tests .. .. .	..	1,080
B.C.G. vaccinations .. .. .	..	178
Admissions to Chest Block, Tamworth .. .. .	..	39

Of the ten cases of tuberculosis notified, one was atypical and the other extra-pulmonary. In 1967 when the contacts of a university lecturer were Mantoux tested, 54 per cent were found to be positive. In eight students the reactions were severe enough to warrant chemoprophylaxis. The others remained free of tuberculosis. In December, 1968, a driver of a school bus was found to be suffering from tuberculosis. The sixty-five scholars concerned were Mantoux-tested and 54 per cent were found to be positive at the first test. These instances show the need to have persons in charge of young people fully investigated for tuberculosis before they are engaged. It has also been possible to keep tuberculosis at bay by intensive follow-up work with patients and contacts through the main clinic in Tamworth and the subsidiary clinics in Gunnedah, Narrabri, Moree, Inverell, Glen Innes, Tenterfield, Armidale, and Quirindi, although the latter is not served by a medical officer.

The Consultant in Chest Diseases (Dr C. G. Bayliss) pays regular visits to Tamworth to advise and assist at the Tuberculosis Clinic at the Tamworth Base Hospital.

MATERNAL AND CHILD HEALTH

Maternal and Infant Welfare

The Armidale and Glen Innes Baby Health Centre Circuits were reorganized in October, with the creation of a new Circuit based on Inverell. This made possible the opening of temporary Centres at Tingha, Warialda, Delungra, and Deepwater, and the provision of home-visiting services at Emmaville and Warialda Rail. Home-visiting has also been increased in Tamworth and district.

Home-visiting is becoming an important part of Baby Health Centre work as Sisters can in this way put their precepts into practice in the very homes of the mothers. Home-visits therefore increased to 2,361. Individual attendances at centres increased by 4 per cent to 4,705, although total attendances dropped by 5 per cent to 34,397 which is a satisfactory trend.

Motherhood classes were started in Tamworth and the response has been very good. It is proposed to hold at least three courses per year. Organizations in Gunnedah and Tenterfield were given advice on starting motherhood classes.

The Well-Baby Clinics were continued. Thirteen sessions were held, 70 babies and their mothers attending. What are needed in almost every town are child-minding centres to take the “load” off mothers with babies; and preschools or kindergartens to stimulate and train the 2–5 year old children. This calls for the co-operation of the Education Department. Primary schools on Aboriginal Stations and Reserves are being discontinued. These could well be used for preschool kindergartens where children can also receive one good meal per day at least.

SCHOOL MEDICAL SERVICES

TABLE V—MEDICAL EXAMINATIONS

Type of service				Number of schools	Examina-tions	Reviews	Parent interviews
Full-time (Dept.)				75	3,321	5,061	195
Shire schemes				36	1,963	1,178	34
Totals				111	5,284	6,239	229
					11,523		

Provision was made for the Shire Scheme to operate in the Macintyre, Yallaroi, Ashford, Dumaresq, Guyra, Tenterfield, Severn, Namoi, and Liverpool Plains Shires; and in the Gunnedah and Inverell Municipalities.

The other council areas are covered by the School Medical Officer and School Nurse except in Armidale where the work is carried out by the Medical Officer to the Teachers College. Special efforts will be made to examine the schools in the Boolooroo and Boomi Shires. Co-operation between the Health and Education Departments is increasing steadily with particular reference to the expeditious investigation and attention of children with defects, and keeping of records.

SPECIAL SERVICES

The Diagnostic Team visited Inverell in October and saw forty-five new cases, with three reviews and twenty-four children requiring speech-therapy attention only. It was found that fourteen cases needed placement in special classes or referral to special clinics. Other referrals included seven for welfare advice, five for medical treatment, and three to agencies in Sydney and elsewhere.

Speech Therapy has now been extended to Armidale, whereas it was limited to Tamworth in the past, with visits to outlying centres for assessment purposes only. Individual attendances included eighty-seven new cases and seventy-two old patients, with a total attendance of 922. Only thirty patients had to be referred elsewhere for special investigation.

IMMUNIZATIONS

Most councils have continued their Sabin Oral Vaccination campaigns with 51,134 doses being issued. The number of clinics for immunizations against diphtheria, whooping-cough, and tetanus have declined considerably owing to the poor response by the public. Councils claim that although many people may attend their own doctors, a satisfactory result will not be attained until they are given the right to use nurses to conduct campaigns. Doctors are not always available and costs are prohibitive when attendances are low. During the year, the Department vaccinated 57 Ambulance Officers against smallpox.

PRIVATE HOSPITALS AND REST HOMES

								Number	Beds
Private hospitals								4	61
Rest homes								4	90

Frequent inspections and supervision have resulted in considerable upgrading in conditions at private hospitals and rest homes. Extensions to rest homes have led to an increase of thirty beds. A new private hospital was erected in Tamworth.

Medical Examinations of Candidates for the Public Service, etc.: 80.

COMMUNITY SERVICES

There are now two psychiatrists in Tamworth and it has been possible to enlist their services for the assessment of schoolchildren.

Representations are to be made by local organizations to the Base Hospital in Tamworth to expand its District Nursing Service and eventually to replace it with a Domiciliary Nursing Service.

The local Interdepartmental Regional Committee for the Intellectually Handicapped is investigating the possibilities of establishing a farm hostel locally.

Investigations in Wee Waa have shown the need for a baby health centre, a community health nurse, a preschool kindergarten, a child-minding centre, a prenatal clinic and related services.

HEALTH EDUCATION AND PUBLIC RELATIONS

Measures taken included:

- (1) Addresses.—“Functions of the Public Health Department” to Rotary and Graduate Nurses Association; “Future of General Practice” to doctors in Gunnedah; “Slimming” to the Weight-Watching Club; “Spare Tyres” to the View Club; “Prenatal Care” to Graduate Nurses, Quirindi; “Speech Therapy” and “Maternal and Infant Welfare”. The Deputy Medical Officer of Health gave three talks on “Public Health in South East Asia”.
- (2) Radio talks.—The mentally handicapped, mosquitoes, teeth, heart diseases, etc.
- (3) Health exhibits at Shows.—The Department assisted with health displays at the Tamworth Show and the Trades Fair at Armidale.
- (4) Display panels.—Health pamphlets and booklets are now also being made available at railway stations and offices of Medical Benefit Funds.
- (5) Numerous press, radio, and television releases were made to keep the public in touch with current health affairs.
- (6) Circulars included monthly newsletters on local topics; code of practice on the supervision of rabbit carcasses, etc., to councils; the care of food trays to motels.
- (7) The Medical Officer of Health paid visits to seven councils to have a look at basic health services and to discuss matters with councils and their officers. These were very successful visits.
- (8) Conferences.—The annual Health Inspectors Conference was held in Glen Innes, on “Management and Administration”. The annual Baby Health Centre Sisters’ Conference was held in Tamworth and the main subject was “The Social Development of Infants and Young Children”.
- (9) The Medical Officer of Health is a member of the Aged Peoples Welfare Committee, Tamworth; Keepit Dam Trust; Mentally Handicapped Association, Tamworth; Marriage Guidance Committee, Tamworth; and Namoi Regional Development Committee.

SURVEYS AND PUBLICATIONS

A survey of prenatal services for Aboriginal mothers was made in the only town in this Health District where such services are also available at the local district hospital. It was found that prenatal supervision was quite inadequate. This also applied to a lesser extent to the local doctors.

A survey of barber and ladies hairdressing shops was carried out in three towns. It disclosed a number of insanitary practices which could easily have been curbed had the local authorities exercised the necessary supervision by regular inspections.

The Medical Officer of Health, Dr J. Henson, published an article entitled “Ponding and Lagooning of Wastes” in *Health and Building*, July, 1968.

Riverina Health District

Medical Officer of Health: Dr DAVID J. LAW, M.B., B.S., D.P.H.

Location: State Government Offices, Cooper Street, Cootamundra

STAFF

The staff establishment remained unchanged and comprised: 1 Deputy Medical Officer of Health, 1 School Medical Officer, 1 Senior Food Inspector, 1 Senior Health Inspector, 2 Health Inspectors, 1 Assistant Nurse Inspector, 20 Baby Health Centre Sisters (2 part-time), 3 Tuberculosis Nurses, 1 School Nurse, 1 Speech Therapist, 1 Senior Clerk, 1 shorthandwriter/typist, 1 Office Assistant.

The position of Senior Food Inspector was vacant for more than 4 months while there were periods of at least a month between the departures of the Senior Health Inspector and each of the two Health Inspectors and the arrivals of replacement officers.

VITAL STATISTICS

The estimated population of the district at 30th June, 1968, was 257,030.

There were 5,268 live births, equal to a rate of 20.50 per 1,000 of population. Of these 2,657 were males and 2,611 females.

Deaths numbered 2,121, equal to a rate of 8.25 per 1,000 of population. Of these, 1,266 were males and 855 females.

Deaths under one year of age numbered 94, equal to a rate of 17.84 per 1,000 live births. Of these 57 or 60.6 per cent occurred within one week of birth, and 63 or 67.0 per cent within the first month. The corresponding rates per 1,000 live births for the two age groups were 10.82 and 11.96 respectively.

There were 56 still births, equal to 10.5 per cent of all births—live and still.

NOTIFIABLE COMMUNICABLE DISEASES

TABLE I—NOTIFICATIONS OF CASES AND DEATHS 1967-1968

Disease	1967		1968	
	Cases	Deaths	Cases	Deaths
Anthrax	1	..	2	..
Brucellosis	2	..	6	..
Diphtheria	1	..	..	..
Encephalitis—viral	1	..	2	2
Gonorrhoea	65	..	44	..
Hydatid disease	4	2	6	2
Infantile diarrhoea	19	6	24	6
Infectious hepatitis	420	..	166	1
Malaria	3	..	2	..
Syphilis	10	..	2	..
Tetanus .. .. .	..	..	2	..
Tuberculosis	19	3	40	4

Infective hepatitis continued to be endemic but the number of notifications received fell to just over one-third of the figure for the preceding year. Once again local epidemics occurred in towns in the eastern part of the district. An outbreak in Yass continued from the previous year into the first 2 months of this one and Grenfell experienced an increased incidence during the winter months.

Both cases of anthrax, acquired from recently deceased cattle by a farmer and a veterinarian respectively, were of the cutaneous type. In the veterinarian the clinical picture was complicated by his having accidentally inoculated himself with strain 19 brucellosis vaccine shortly before exposing himself to the anthrax bacillus.

The two cases of malaria were imported, infection being acquired by the affected persons during visits to New Guinea.

Mobile miniature X-ray units mass-surveyed the adult population in 23 local authority areas taking chest X-rays of a total of 75,463 residents. That the number of cases of pulmonary tuberculosis notified was more than twice that for the previous year, is largely due to the activity of these units.

Vaccination against smallpox was offered to all full-time Ambulance Transport Service Board officers and to those honorary bearers regularly called upon to assist these officers and was accepted by almost everyone. No untoward reactions to the vaccine were encountered.

ENVIRONMENTAL HYGIENE

TABLE II—ROUTINE INSPECTIONS AND INVESTIGATIONS

	1967	1968
Abattoirs and slaughter yards	68	50
Aboriginal stations and reserves	8	3
Camping grounds, caravan parks, swimming pools.. ..	56	44
Dwellings and shops	3	132
Hotels	1	32
Nuisances and complaints	10	27
Noxious Trades	241	194
Samples submitted for analysis	134	93
Sanitary surveys .. .. .	..	2
Sanitary and garbage depots including proposed sites ..	108	119
Septic tanks—		
Applications dealt with	458	481
Mass installations	14	5
Sewage treatment works including proposed sites	69	50
Miscellaneous including swimming pools, water supplies ..	30	40
Special investigations	10	5

The resignations of the two Health Inspectors attached to the District Office and their replacement by officers with no initial knowledge of the area resulted in a measurable, if temporary, check to this basic aspect of district activities.

During the year District Officers undertook a number of prosecutions, mainly in connection with dirty premises associated with slaughter yards and pigkeeping premises. Several other cases arose from the discovery of uncovered nightsoil at sanitary depots. In all cases the prosecutions were successful.

The hygienic and structural standards of noxious trades premises steadily improved. This was brought about by the introduction of more regular inspections and the fact that the extension of the provisions of the Noxious Trades Act to the whole district has now been in force for more than a year.

To initiate a long term programme, during which all local government areas in the district will be subjected to sanitary surveys, surveys were carried out in the Shire of Goodradigbee and the Municipality of Yass which are at present under the control of the one Health Surveyor holding a joint appointment to these authorities.

The Third Annual Conference of Local Government Health Surveyors and Inspectors and District Officers was held at Albury in June. The principal speakers were Mr S. C. Derwent, Director, The Institute of Administration in the University of New South Wales, and Mr W. J. Madgwick, Chief Food Inspector of this Department.

It is pleasing to note that almost all Local Government Health Surveyors now approach district staff for advice and guidance in health matters as a matter of course. The number of inquiries received from members of the general public has increased steadily since the Health District was established, indicating a growing public awareness of the services provided by the District Office.

PURE FOOD ADMINISTRATION

For the first time in this Health District particular attention was paid to food and drink stalls at showgrounds, racecourses, and the like. Many, floored with dirt, walled with a miscellany of wood and metal and roofed with galvanized iron or canvas, usually dirty, on a rough-hewn wooden framework, were most unsatisfactory.

When their attention was drawn to the disturbing conditions found the committeemen of the affected show societies were quick to point out that for many years little if any attempt had been made to interfere with these long-established, if somewhat dubious, practices in relation to the sale of food and drink. The policy adopted has therefore been one of on-site discussions with follow-up conferences with the societies' executives to secure agreement on priorities and an approximate timetable for the carrying out of necessary improvements. To date this approach has produced satisfactory results.

TABLE III—INSPECTIONS, SAMPLES, NOTICES, AND PROSECUTIONS

	1967	1968
Premises inspected	710	322
Notices served	27	70
Samples—		
Purchased	434	379
Below standard	56	49
Spirits tested	N.A.	565
Meats tested for preservative	N.A.	236
Complaints investigated	10	13
Prosecutions completed.. .. .	63	39
Fines and costs imposed	\$2,123	\$1,164

The effect of the position of Senior Food Inspector being vacant for more than a third of the year is demonstrated in table III, particularly in the figures for inspections and prosecutions.

The Senior Food Inspector launched a widespread campaign aimed at raising the standard of milk for sale. Systematic bacteriological and pasteurization checks, commonly disclosing a high bacteriological content or indicating inadequate pasteurization, helped to make the parties directly concerned, that is the farmer and the milk company manager, aware that the only acceptable product was one initially of good quality and subsequently properly processed. One dairy company, against which nine prosecutions for the sale of adulterated milk were taken last year, upgraded the quality of its product to such an extent that it was able to secure a contract for the long distance distribution of milk by bulk tanker.

MATERNAL AND INFANT CARE

At the request of the Snowy Mountains Authority a Baby Health Centre was established at Talbingo in a building provided by the Authority.

The total number of attendances at Centres was 65,616 (69,779 in 1967) with individual attendances totalling 9,155 (9,349). The number of first attendances by babies under 12 months of age fell from 5,823 in 1967 to 4,017 this year. The Sisters saw 4,117 mothers in hospitals and spent 2,357 hours (3,212 in 1967) visiting mothers in their homes, during which time 1,197 (1,161) new babies were seen.

The second District Conference of Baby Health Centre Sisters, again held in Cootamundra, was addressed by the Director, Bureau of Maternal and Child Health, a departmental Social Worker and the School Medical Officer and Speech Therapist stationed at Wagga Wagga.

CHILD HEALTH

As the year progressed the departmental School Medical Officer, whose activities had formerly been confined to the City of Wagga Wagga, was able to extend his field of operations to embrace four Shires and one Municipality.

The Country Councils Scheme continued to be operated by one full-time Medical Officer and seventeen part-time medical practitioners. The use of local doctors continued to be satisfactory in closely settled communities but in the more remote rural areas where population pockets are scattered the cover provided was far from complete because of the inability of the participating practitioners to travel far from the central points of their private practices.

TABLE IV—MEDICAL EXAMINATIONS OF SCHOOLCHILDREN

Scheme	Schools visited	Children examined		Defects Notified	Parents Interviewed
		Fully	Reviewed		
Departmental—					
1967	36	2,996	4,610	1,037	161
1968	47	2,917	2,558	523	214
Country Councils—					
1967	133	11,958	5,716	2,216	716
1968	135	8,528	6,231	2,232	509

A diagnostic team consisting of a Medical Officer, Psychologist, and Social Worker visited Wagga for a week. With the assistance of the resident departmental Speech Therapist, children selected by teachers, family doctors, and parents were assessed for educational sub-normality, emotional disturbances, behaviour disorders, and speech defects and those requiring either more detailed investigation or specialized treatment were, with the concurrence of the family doctor, referred to Sydney.

The speech therapy service provided to the City of Wagga Wagga and environs was maintained and extension to other large centres was envisaged but not implemented.

The Bush Nursing Association Centres at Bribbaree, Tullibigeal, Weethalle, and Darlington Point and the National Fitness Camp at Borambola were visited and inspected in company with the Assistant Director, Section of Child Health.

The Riverina Regional Advisory Committee on the Intellectually Handicapped, of which the Medical Officer of Health is a member, met regularly in Wagga and members visited Cooma to discuss with the executive of the local branch of the Sub-normal Children's Welfare Association, their plans for a hostel.

ABORIGINES WELFARE

The Baby Health Centre Sisters at Balranald, Griffith, Narrandera, and Wentworth continued to make regular visits to the Aboriginal settlements in those areas.

The programme of tuberculin testing and, when indicated, B.C.G. vaccination of Aborigines of all ages which was started last year, was maintained and visits were paid to Dareton and Lake Cargelligo for this purpose.

PRIVATE HOSPITAL AND REST HOMES

With the aim of maintaining the improvement in standards achieved by previous inspections regular visits were made to the privately conducted establishments of this nature in the district.

HEALTH EDUCATION AND PUBLIC RELATIONS

The prescribed course of lectures in personal and communal health and social aspects of disease were given to the trainee nurses from several hospitals who attended the training school at the Cootamundra District Hospital and an abbreviated series of lectures for the latter subject was given to trainee nurses at the Griffith District Hospital.

During Health Week many requests for assistance in conducting health education sessions in schools were received from councils and several officers were welcomed as guest speakers at schools and addressed other gatherings.

Broken Hill Health District

Medical Officer of Health: Dr. J. T. CULLEN, M.B., B.S.

Senior Medical Officer: Dr. J. P. D. O'HIGGINS

Location: Bureau of Medical Inspection, Broken Hill

STAFF

One Radiographer, 2 Clerical Staff.

LOCAL AUTHORITIES

The Broken Hill Health District is confined to the County of Yancowinna. The county covers an area of 16,000 square miles with the City of Broken Hill at the centre of the county.

The South Australian border forms the western boundary. The Broken Hill Health District is a centre of metal mining and pastoral industries.

The Vital Statistics and Diseases Notified refer to the City of Broken Hill.

VITAL STATISTICS

The population of the district as at 30th June, 1968, was 30,320.

There were 548 live births.

Deaths of residents numbered 236.

Infantile mortality.—Deaths under one year of age numbered 8.

Of the total number of deaths of infants under one year of age, 7 occurred within one month of birth.

There were 7 still births to mothers resident in the district.

COMMUNICABLE DISEASES NOTIFIED

	1967	1968
Infectious hepatitis	7	14
Infantile diarrhoea .. .. .	..	2
Tuberculosis	7	11
Syphilis .. .. .	..	3
Gonorrhoea	7	6

EXAMINATIONS CARRIED OUT

Examinations and interviews as Medical Officer of Health.. ..	198
Post mortem examinations at the request of the Coroner	40
Attendances at court and giving evidence in Police cases	14
Examinations of arrested persons or prisoners	3
Examinations and reports on Police Constables <i>re</i> fitness for duty	26
Visits to gaol for examination of prisoners	2
Government examinations—Public Service Board, Railways Department, Education Department, etc.	196

SCHOOL MEDICAL SERVICE

Dr. J. P. D. O'Higgins commenced duties as Senior Medical Officer, Bureau of Maternal and Child Health on 25th November, 1968.

Following the recent appointment of a full-time Speech Therapist to the Broken Hill and District Hospital, visits were made by the Senior Medical Officer to all Broken Hill schools in which teachers considered there were pupils with major speech defects. Eight schools were visited prior to the summer vacation; a total of 46 children were assessed, 16 of whom were referred to the Speech Therapist for treatment.

A survey was conducted re the immunization status of pre-school and schoolchildren at Silverton which disclosed that none of the Aboriginal children in the township were immunized against diphtheria, tetanus, poliomyelitis, and pertussis. Arrangements have been completed for the necessary transport of these children to the Broken Hill and District Hospital where they will receive their immunization free of charge commencing early in 1969. A similar survey was conducted at Menindee with the co-operation of the Methodist Nursing Service situated there. This also indicated the urgent need for an immunization campaign to protect the Aboriginal children in the township, and such a campaign will be commenced early in 1969, again with the co-operation of the Methodist Nursing Service.

A number of premises were inspected for overcrowded and insanitary conditions with, and at the request of, the City Health Surveyor and/or the Child Welfare Officer.

HEALTH EDUCATION

Lectures have been given to schoolchildren and nurses.

WATER SUPPLY

Bacteriological examination of the water supply has been carried out. Examinations are made at the laboratory and from time to time they are compared with examinations from Sydney. Tests have proved satisfactory.

An additional water supply known as Imperial Lake has been added to the town's catchments.

INDUSTRIAL MEDICINE

Weekly visits by Ear, Nose, and Throat Specialists have commenced this year in connection with industrial deafness. One thousand one hundred and fifty mine workers were examined during the past 12 months and a number have been found to be suffering from sensory neural deafness. A soundproof room has been constructed for audiometric examination. A PR 9B Diagnostic Audiometer is now available and is used for pure tone audiometry.

SCIENTIFIC SERVICES

Government Analyst’s Branch

Government Analyst: Mr L. G. CLARK, A.S.T.C.(Chem.), A.R.A.C.I.

Location: 93 Macquarie Street, Sydney

The establishment consisted of 26 Analysts, 4 Microbiologists, 16 Technical Officers (Scientific) and Laboratory Assistants in Training, 6 Laboratory Attendants, 1 Laboratory Cleaner, 4 Office Assistants, and 1 Stores Assistant. In addition there were 2 Trainee Laboratory Assistants and 1 Full-time Trainee Analyst.

Details of the samples and cases examined during 1968 are tabulated below, together with comparative figures for the year 1967. Details of the sources and authorities from whom samples were received are given in Appendix 1.

Section	1967	1968
Milk and milk products	11,116	9,721
Meat and meat products	4,970	5,069
General foods	680	726
Food bacteriology	248	748
Pesticides	90	236
Water (chemical)	1,626	1,827
Water (bacteriological and algal)	5,684	6,605
Bacteriology (for Epidemiology Division)	1,406	2,069
Water fluoridation	28 inspections	31 inspections
	162 samples	338 samples
Toxicology	693 cases	631 cases
Biochemical	1,420	1,639
Blood alcohol	1,429	1,404
Drug	191	266
Criminal Investigations	85 cases	104 cases
Government Stores (excluding food and drugs)	149	165

GENERAL FOODS SECTION

Seven hundred and twenty-six samples were examined during the year. The work of this section is characterized by a number of routine analyses carried out in the categories listed below, together with a number of food samples of a non-routine nature examined as the result of complaints or examined in connection with various investigations.

Bread and meals	100
Alcoholic beverages	115
Colour in food	53
Soft drinks	177
Foreign matter	54
Miscellaneous foodstuffs	227

Foreign Matter in Food

There was the usual range of foreign matters in food. Perhaps the most interesting was the occurrence of potash alum in two samples of sugar. The first was found when a complaint was received saying that the addition of milk caused tea to curdle. The concentration of alum and the pH of the tea was such as to produce a flocculation of the tannin and milk protein in the tea. The second complaint, some months later, was that the sugar was bitter. In each case particles of alum were recovered from the sugar. These particles had about the same grain size and grain distribution as the sugar crystals leading to the belief that the contamination occurred in the factory, although this has not been proved. About 10 per cent monosodiumglutamate was found in one sample of sugar but no satisfactory explanation has been found for this contamination.

Rodent excreta and other filth is still a too frequent contaminant of bread. Two loaves were found to be so contaminated.

Alcoholic Beverages

Only 6 of the 56 samples of beer submitted failed to comply with the regulation which prescribes a minimum of 7·3 per cent Proof Spirit (4·2 per cent v/v alcohol). Beer samples are generally well above this limit, averaging about 4·8 per cent alcohol by volume. On the other hand, 22 out of the 31 samples of spirituous liquors submitted did not comply with the standard. This is explained by the fact that food inspectors test a considerable number of spirits in the hotels by means of the Sykes Hydrometer and only submit those samples to the laboratory which do not comply with this test.

Bread and Meals

In addition to a number of samples of bread routinely examined for crude fibre, a number of samples were examined as part of a survey into the crude fibre content of New South Wales wholemeals, using the Association of Public Analysts method. This work was carried out at the request of the Food Analyst's Sub-Committee of the National Health and Medical Research Council.

The Department of Agriculture kindly provided typical samples of wholemeal flour and baked test loaves from these meals. Sixteen samples of meal and of the breads baked from these were supplied. The A.P.A. method worked well for the breads but considerable difficulty was experienced in the filtration of the residue from the wholemeal flours.

A very poor correlation was obtained between the crude fibres of the meals and of the breads baked from them. It was noted that the bran particles in the meals tended to segregate and it was impossible to mix these so that uniform samples were obtained with the 2 gram samples taken for analysis. It was considered that the analytical figures obtained for the meals were unsatisfactory. This brings up the question as to whether it is not better to analyse only the breads (made according to a controlled formula) as the basis of any figures for crude fibre written into the Regulations. The dried and granulated bread will have a much more uniform distribution of the bran particles derived from the flour.

A collaborative study was carried out between this laboratory and the Bread Research Institute on 50 loaves of bread submitted by the Weights and Measures Office for the determination of dry solids content. Good agreement was obtained between the two laboratories. It is anticipated that legislation will be enacted by that Department to make the dry solids content the criterion on which to base the weight of a loaf rather than the traditional weight of the finished loaf as in the present standard. The latter criterion is alleged to be unrealistic for certain types of bread which have a low moisture content when baked.

Food Surveys

The Pure Food Branch submitted 19 curry powders as a part of a survey to determine whether there is any need to regulate this product. Some of these curries had starch contents which were unnecessarily high and indicate a need for some control by means of Regulation.

A survey of honey was commenced in connection with a standard proposed by the Codex Alimentarius Commission. Work on this unfortunately had to be deferred due to a shortage of staff.

Food Additives

Three soft drinks were found to contain methyl p-hydroxy benzoic acid, a preservative which is not permitted in this country.

This is a problem which will be encountered increasingly in the future. Some foodstuffs are imported which contain non-permitted additives. In other cases, local food processing firms use additives which they know are used in some overseas countries, anticipating that legislation will eventually be enacted to allow their use in this country. In many cases their predictions are justified, but in some cases, certain additives are eventually specifically prohibited. It is a dangerous policy for the manufacturer to usurp the role of the food legislator.

MILK SECTION

Milk Samples

Nine thousand two hundred and thirty-eight milk samples were examined during the year, these being submitted by various authorities including the Food Inspection Branch, Milk Board, City Council, country Health Districts and local government authorities. Three hundred and forty-six or 3.76 per cent of these samples failed to comply with the standards. Ninety-three samples were deficient in milk fat, 214 samples showed the presence of either added water or low milk solids and 39 samples were found to be improperly pasteurized.

Regulation 24 (vi) of the N.S.W. Pure Food Act was amended during the year and the Aschaffenburg and Mullen method for residual phosphatase became the official method for determining the efficiency of pasteurization of milk, replacing the Kay and Graham test which had been used for very many years. One of the advantages of the new test is that it enables results to be obtained in 30 minutes, as compared to the 24 hours that is required for the Kay and Graham test.

A Draft Standard for the determination of the freezing point depression of milk using Thermistor Cryoscopes was drawn up by this laboratory for consideration by the Standards Association of Australia and it is probable that this standard will be adopted in 1969. The Fiske Cryoscope, an instrument of this type, has been in use for several years in this laboratory and has many advantages, including a saving in the time of analyses. The fact that it can be used by relatively unskilled staff is perhaps its greatest advantage when compared with the modified Hortvet cryoscope traditionally used.

Both instruments are in use in this laboratory and the results by both methods evaluated in respect to any samples on which legal action might be taken. As reported previously, comparative studies have been carried out in this laboratory by both instruments and a very good correlation was obtained.

The Pure Food Regulations were amended during the year to permit either method to be used for determining the freezing point of milk. It is intended to use both methods in this laboratory for some time as the milk industry has not as yet changed over to the use of the thermistor cryoscope.

A new "Milko-Tester" automatic milk fat detector was installed during the year. Tests have shown it to give an excellent correlation with the official Babcock method of milk fat determination. This instrument is used for preliminary sorting tests. A distinct advantage is that it can be used with semi-skilled staff and it does not require the use of concentrated sulphuric acid which is a potential hazard when using the Babcock method.

Dairy Products

Four hundred and eighty-three dairy products other than milk were also examined in the laboratory.

Three hundred and fifty-seven samples of cream were examined and 3 found to be deficient in fat content and pasteurization.

Thirty-six samples of butters were tested; it was found that three contained excessive moisture. Eight samples taken from sandwich shops were found to be margarine.

Of 20 ice creams examined, 3 were found to have low fat contents and 2 found to contain a foreign fat.

Eight cream mixture samples were analysed and one was found to contain hydrogen peroxide.

Miscellaneous samples examined included cheese, flavoured milks, flavoured ices, milk ice, ice cream mixture, reduced cream, skim milk, sour and mock cream, milk powders and shakes, and imitation milks.

There was a slight increase in the number of samples of foreign matter found in milk and cream bottles. A start was made to improve the methods of determining the volume of ice cream packs and to determine their total solids content in accordance with Draft Method of the Standards Association of Australia.

Work is continuing on the development of a satisfactory gas chromatographic method to detect and quantitate the presence of foreign fats in ice cream and related products.

MEAT PRODUCTS SECTION

Five thousand and sixty-nine samples of meat and meat products were examined during the year.

Four thousand two hundred and forty-eight of these samples were examined for the presence of sulphur dioxide preservative. Five hundred and ten out of 3,755 samples of sausages and sausage meat were found to contain excessive amounts of sulphur dioxide. Two hundred and thirty-three out of 460 samples of meat and minced meat and 13 out of 33 samples of tripe were found to contain sulphur dioxide. The addition of preservative is not permitted in these latter classes of meat.

The apparently high proportion of meat samples containing sulphur dioxide is due to the fact that food inspectors first test these samples in the butchers' shops by means of the malachite green field test. They only submit samples to the laboratory which are doubtful by this preliminary screening.

Three hundred and thirty samples of smallgoods were examined. Three contained excessive preservative, 1 contained artificial colour and 2 were low in meat content.

Four hundred and fourteen samples of meat were submitted on behalf of the Government Stores Department in connection with the supplies to government institutions. This compares with 231 such samples submitted in 1967 and 167 samples submitted in 1966. Forty-three of these samples were low in meat content, 26 had excessive fat and 3 of the sausage samples contained excessive starch.

Seventy-seven samples of canned meat and packed meat were examined. Six were found to be deficient in meat content. Agar-agar, a gelling agent was found in 2 of these samples.

In addition to the large number of meat samples submitted for routine analysis, a number of samples of meat products were analysed for special purposes.

Testing for foreign meat in a number of samples was successfully carried out by the gel diffusion method of Ouchterlony. All minced meat samples from the Government Stores are now tested for mutton and about 22 per cent of these samples were found positive. This technique was also used in one case for the identification of horse meat.

Work was continued on obtaining a suitable method for the presence of propylene glycol in meat around the 30 parts per million level, this being necessary to determine small amounts accidentally transferred from the freezing plant. The method developed by the Queensland Government Chemical Laboratories was found to give good results. This required the use of a rotary evaporator, one of which was obtained during the year. The G.L.C. column was packed with Porapak Q. Recoveries of 95-110 per cent were obtained.

A few samples were labelled sausage meat but had the appearance of minced meat. The alcoholic potash sorting test gave an apparently positive result but when the precipitate was separated and washed and estimated quantitatively, it was found not to be starch. Phosphate was present in this precipitate indicating that a preparation containing a phosphate compound had been mixed with the meat.

A sample of minced meat, containing a large proportion of inedible material, imported from Western Australia, was brought in by one of the inspectors. The inedible fraction, gristle and ligamental materials, was separated from the edible fraction by means of tweezers and their respective weights determined. The inedible fraction ranged between 12–18 per cent. Although N.S.W. Regulations allow the sale of sinew that normally accompanies muscle tissue, this amount was considered excessive and the Department forbade the sale of this shipment for human consumption.

A can of tripe and onions was received for the determination of meat content. Using the usual protein-lean meat conversion factor of 4·8, the meat content of 33 per cent was found to be much lower than the minimum of 51 per cent laid down by Regulation 19A (7). A few tripe samples were analysed for protein content in the laboratory and the protein content ranged from 10·9 per cent to 13·2 per cent. As the fat content of tripe is 1·5–1·8 per cent, a conversion factor larger than 8 would be required. The Laboratory Guidebook of the Technical Services Division of the U.S. Department of Agriculture gives the factor of 6·1 for cooked beef tripe.

A proprietary preparation imported from New Zealand, described as a casein compound and recommended to be used as binding material in sausages, was received. The distributors claim it increases moisture absorption and retention; contains 90 per cent protein and can be substituted for meat, thereby increasing the sausage manufacturer's gain. Work in the laboratory confirmed the high protein figure. The material is completely dissolved in alcoholic potash, has an ash content of 3·4 per cent and contains no lactose. Its addition to meat can be detected by separation and identification of the casein.

FOOD BACTERIOLOGY SECTION

Seven hundred and forty-eight samples were examined during the year, a far greater number than had been examined in any previous year. These samples can be grouped as follows:

Milk and cream for antibiotics	360
Milk and cream (bacteriological).. .. .	70
Oysters	122
Alleged food poisoning	74
Disinfectants and detergents	26
Other samples	96

The main reason for the increased number of samples was the survey that was conducted on country milks for the presence of antibiotics. In this survey, cream samples presented some difficulty and were converted to butter, the buttermilk being tested in an attempt to get results. Three hundred and sixty milks and creams were examined and 13 were found to contain antibiotics, 9 at a level lower than 0·005 IU/ml penicillin and 2 at levels between 0·01 and 0·03 IU/ml penicillin. One was found to contain the equivalent of 0·009 IU/ml (expressed as penicillin) of an antibiotic other than penicillin and another found to contain the equivalent of 0·02 IU/ml (expressed as penicillin) of penicillin mixed with another antibiotic. The use of milk from cows which have been treated with antibiotics is not permitted until 72 hours have elapsed after the last administration of an antibiotic. These samples were examined by the Naylor disc assay method.

The continuing oyster survey has shown an increasing level of pollution, particularly in the Georges River, culminating in the detection of *Salmonella* in oysters from Woolooware Bay. *Salmonellae* were also recovered from water draining from a tip into this bay.

In a number of imported sauces, contamination proved to be so great that individual colonies could be seen actually growing in the sauce.

Coconut testing (9 samples) continued at a reduced level and examinations on frozen prawns (5 samples) were considerably less than the previous year.

Analyses of samples submitted as possible causes of food poisoning have yielded no significant result. However packs of frankfurts showed extremely high total colony counts and enterococcal counts. Although this is in itself not sufficient to cause food poisoning, it indicates that non-sterile food in a vacuum pack must be stored at a temperature sufficiently low to inhibit bacterial growth.

Salmonellae and coagulase-positive staphylococci were recovered from the cooling water from a chicken processing plant. The water is contaminated with blood and protein material making it an excellent medium for the growth of bacteria, so that if any of this is absorbed by the birds, *salmonellae*, staphylococci and other types of bacteria must also be absorbed.

Salmonella testing presents many problems as different foods require different methods of testing and as yet most methods are not consistently sensitive enough to be used as routine. In an endeavour to overcome some of these difficulties, approximately 30 mince meat samples were tested using different media, temperatures, and times of incubation. This series indicated that satisfactory results depend on a multiplicity of tests—different quantities of the test material, different media for both enrichment and plating, incubation at both 37° C and 42° C and different times of incubation. These investigations led to the introduction of a new plating medium, Hektoen Enteric Agar which was developed in the Hektoen Institute for Medical Research, Chicago. This has been incorporated into the routine testing method and has proved most satisfactory. A similar series of tests is being carried out on milk powders and will continue into 1969.

PESTICIDE SECTION

Two hundred and thirty-six samples were analysed during the year compared with 90 the previous year. This section was formed in 1965 and the increase in samples was largely due to the fact that a large proportion of the time in previous years was devoted to the evaluation of published methods of analysis and the development of suitable “clean up” methods for the preparation of the samples to be analysed. This preliminary groundwork has now paid off and this year, most of the work of the section was devoted to the testing of samples. The majority of analyses were made for chlorinated pesticides but increasing numbers of requests for the analysis of organo-phosphorus pesticides were received as the year progressed. The main types of samples analysed were as follows:

Milks	..	..	..	..	..	..	..	156
Waters	..	..	..	..	..	..	..	32
Bloods	..	..	..	..	..	..	..	18
Vegetables	..	..	..	..	..	..	..	10
Miscellaneous	..	..	..	..	..	..	..	20

Milk

The survey carried out on 153 samples of milk for the Milk Board constituted the major part of the work for the year, but had to be postponed after August. A breakdown of the results with regard to Codex tolerances is given below:

Pesticide				Percentage of samples positive	Median range—p.p.m.	Codex tolerance—p.p.m.	Percentage above tolerance
DDT	..	..	..	100	0.01—0.1	0.05	10
BHC	..	..	..	83	0.001—0.01	0.008	9
Dieldrin	..	..	..	96	0.001—0.01	0.005	8
Aldrin	..	..	..	47	0.0001—0.001	0.005	Nil
Heptachlorepoxide	..	..	..	53	0.0001—0.001	..	..
Endrin	..	..	..	34	0.0001—0.001	..	..

It was noted that one particular source of milk had consistently higher residues than the average. This dairy used market scraps for cow feed, consisting mainly of the outer leaves of cabbages, and samples of these were analysed. The maximum results obtained on these market scraps were: 2.2 p.p.m. DDT (tolerance 7 p.p.m.), 0.35 p.p.m. BHC (tolerance 5 p.p.m.), and 0.15 p.p.m. dieldrin (tolerance 0.1 p.p.m.). Whilst these figures are fairly high, more samples would be required to give a true picture.

Endrin Poisoning

In February, samples of vomitus from a family suffering from symptoms resembling pesticide poisoning were received. All of the samples contained endrin, which is extremely poisonous (LD₅₀ = 5 mg/kg, compared with parathion, LD₅₀ = 4 mg/kg). Samples of bread eaten by the family were found to have a high concentration of endrin. It was found that the bakery making the bread had installed a device known as “Rid-a-bird” to remove birds from inside the bakery. This consists of a tray containing a grease impregnated with endrin, which irritates the birds’ feet when they settle on it. Some of the grease had dripped from the trays on to the bread beneath. The presence of endrin is not permitted in food factories.

Pentachlorophenol Residues

Several samples of water were received for the analysis of pentachlorophenol, used as a fungicide. Also received was blood from a man in Glen Innes who was exposed to pentachlorophenol. It was pointed out that a 24-hour urine sample was more suitable and several of these were received. All were positive.

A method for the analysis of pentachlorophenol in water was developed, allowing the one hexane extraction to be made for both pentachlorophenol and the usual chlorinated pesticides. This resulted in a saving of time, as previously a separate ether extraction had to be made for pentachlorophenol.

Organophosphorus Pesticides

The increasing number of analyses made for these pesticides has been carried out using thin layer chromatographic techniques, but if a larger volume of this type of work is received, gas chromatographic techniques will have to be employed in the future. It is expected that the cleanup method at present in use will be suitable for such analyses but a different type of detector will have to be used on the gas chromatograph. It is anticipated that suitable equipment will be made available when we occupy our new laboratories.

DRUG SECTION

Two hundred and sixty-six samples of drugs, or of exhibits to be tested for the presence of drugs, were examined during the year. These were obtained from the following sources:

Government Stores Department	115
Police Drug Squad	72
Other Police sources	18
Poisons Branch	25
Miscellaneous sources	36

Nine of the samples submitted by the Government Stores Department failed to comply with the B.P. standard. Samples of extract hyoscyamus liquid, sodium carbonate anhydrous, sodium acid phosphate, and zinc sulphate were found to give a low assay. A sample of morphine sulphate was found to give a high assay and samples of mersalyl injections and ergometrine maleate injections were found to be high in pH. Two batches of chloroform did not comply with the B.P. standard. In addition, the samples of sodium carbonate and zinc sulphate failed to comply in other respects.

There was a large increase in the number of cases submitted by the Police. Of the 90 cases examined for this authority, 72 came from the Drug Squad. This may be either a direct result from the enlargement of the squad or an indication of greater drug usage developing in the community. This has led to a considerable amount of increased work in the Drug Section.

Of the 75 "positive" cases submitted by the Police, 19 of these were related to lysergide ("LSD"), 14 to cannabis, 13 to methyl amphetamine, 5 to amphetamine, and 2 to morphine. Miscellaneous cases included drugs such as heroin, cantharidin, prolintane and pheonidate, caffeine and diphenhydramine, nikethamide, phenmetrazine, diazepam, amitriptyline, pentobarbitone, methaqualone, thioridazine, carbromal and bromvaletone, acetyl p-aminophenol, chlorthalidone, sulphafurazole, indomethacin and chlordiazepoxide.

Twenty-five samples were forwarded from the Poisons Branch and these consisted of many miscellaneous materials including wood preserving oil, phenolic disinfectant, powders, capsules, tablets, cannabis, dyes, and soldering fluid.

Hospitals, doctors, and other sources submitted 21 samples, the Division of Establishments 8, the Food Inspection Branch 4, and Pharmacy Board 3.

Pharmaceutical manufacturers and distributors were again approached during the year for samples of their drugs in tablet or capsule form which are available in Australia. There was a pleasing response to our requests and as a result new products were added to our Tablet Museum Collection, keeping it well up to date and maintaining it as a valuable reference collection.

In the second half of the year the section acquired a full-time laboratory assistant-in-training. This allowed a proportion of the routine samples to be completed by her under the supervision of the analyst and provided extra time for the analyst to handle the increasing number of police cases.

TOXICOLOGY SECTION

Six hundred and thirty-one cases were submitted for toxicological examination during the year. Most of these involved the examination of human viscera in connection with coronial inquiries. One case concerned an exhumation carried out at Adelong. Two analysts were present at the graveside and collected samples of soil which, together with other specimens removed from the body, were subjected to further analysis. Cases were obtained from the following sources:

City Coroner	346 cases
Parramatta Coroner	95 cases
Country Coroners	157 cases
Canberra Coroner	19 cases
Dog baits, etc.	14 cases

The previously reported disparity between the number of cases received from the Parramatta Coroner and those received from the City Coroner continued to be apparent in 1968. These numbers are not consistent with the distribution of population in the two Coronial Districts.

Two analysts attended the inaugural meeting of State Toxicologists held at Melbourne in November. This provided an opportunity for analysts working in the section to interchange methods and information with their counterparts working in laboratories in other States. It is planned to hold similar conferences on an annual basis to assist toxicologists in keeping abreast of advances in the field. Conferences of this type are a necessity as the volume of published literature makes it very difficult for one laboratory to extract from it all the desired information and the evaluation of every published method is clearly impossible.

Of the exhibits received, barbiturates continued to be the drugs most frequently found. The non-barbiturate sedatives showed an increase with 10 glutethimides, 8 methaqualones, and 14 chlorals. Traditional poisons were found in about the same number of cases as last year with 12 arsenics, 4 cyanides, and 4 strychnines. There was a greater variety of cases involving agricultural chemicals. One case concerned the recently introduced herbicides paraquat and diquat. The Rural Chemicals Division of Imperial Chemical Industries of Aust. and N.Z. Ltd provided information on and samples of these compounds. This greatly facilitated the development of a method for their isolation and determination in biological material.

Although the pressure of routine work has limited the time available for research, a procedure was evolved for the separation, isolation, and determination of paracetamol in the presence of barbiturates. It has proved valuable in a number of cases since paracetamol has largely replaced phenacetin in pharmaceutical products. A copy of the method will be found in appendix 3.

Details of the results of analyses are tabulated in appendix 2. In many of these cases more than one drug was found and the quantities recovered varied from therapeutic amounts to quantities indicative of the ingestion of an obvious overdose. The presence of a drug in the viscera does not necessarily indicate that it was the cause of death. The results of these analyses are interpreted by medical officers and considered by the coroners, together with other information, in reaching a finding as to the cause of death.

BIOCHEMISTRY SECTION

The types of analyses carried out in this section during the year can be broadly subdivided as follows:

Metals in biological materials	..	..	..	..	1,630
Drugs in biological materials	..	..	..	..	187
Cholinesterase determinations	..	..	..	..	393
Blood chlorides	..	..	..	..	64
Carbon monoxide in blood	..	..	..	..	51

Exhibits were received as the result of city coronial inquiries (386), from the Police (270), the Division of Occupational Health (313), and from other miscellaneous sources, including hospitals (1,326).

Trace Metals

The use of the atomic absorption spectrophotometer has simplified the work of this section enormously and allowed the determination of many metals which would be difficult to determine in trace amounts by any other means. Special lamps are on hand to enable this instrument to determine 25 different metals and extra lamps can be obtained to enable a total of 50 different metals to be determined if required.

The following examples and case histories are selected from cases analysed during the year:

- (i) Lead poisoning associated with the use of lead paints at Grosvenor Hospital showed paint scrapings to contain as much as 9 per cent lead. This is certainly not an isolated instance as is shown in three other cases taken at random. All three cases serve to highlight the potential danger to children.

	Source of paint scraping								Per cent lead
Case 1—									
Front gate	25
Front fence	84
Gateway	4
Guttering	2
Case 2—									
Kitchen cupboards	2.3
Bicycle	3.3
Toy truck (made in China)	2.5
Window sill	4.1
Case 3—									
Window sill	4.1
Bedroom door	6.4
Kitchen	6.0

- (ii) In a survey of toys made in China, and readily available on the local market, the lead content of the surface paint varied from zero (in three cases) to 1.2 per cent (one case), whilst in the remaining nine cases it was not in excess of 0.05 per cent.
- (iii) A novel application of Atomic Absorption Spectroscopy concerned the detection of trace amounts of lead of the order of 20 micrograms around the edges of holes in a singlet, this being an exhibit in a case of alleged murder. These holes were believed to have been made by a lead bullet and the proof or otherwise of their origin was of assistance to the court in evaluating the defendant's evidence. The presence of lead was confirmed in these areas. This determination was a relatively simple matter using the A.A.S. technique whereas any other method would have been much more difficult and time consuming.

Drugs in Biological Materials

To assist in diagnosis, a number of specimens of blood and urine from living patients were submitted by hospitals. The problem of determining drugs at physiologically active levels in limited quantities of specimens is more difficult than determining the same drugs in viscera from post mortem cases where much larger quantities of specimens are available. Much time has to be spent to modify existing methods to determine these micro-quantities of drugs and each request for a drug not previously determined requires work to be done to evolve a satisfactory method of analysis. With the increasing use of addictive and other drugs in the community, there is the need to devote more work towards establishing rapid, analytical procedures.

One hundred and eleven specimens were submitted for the determination of barbiturates in biological fluids. Specimens were also submitted for the determination of 13 other different drugs or groups of drugs, as shown in the following table:

Drug(s)							Number of cases	
							Positive	Negative
Narcotics-opiates	..	..	..	..	..	..	1	32
Strychnine	..	..	..	..	..	..	0	4
Pyridium ..	..	..	..	..	..	..	1	0
Pethidine ..	..	..	..	..	..	..	1	2
Amphetamine	..	..	..	..	..	..	1	4
Chlorpromazine	..	..	..	..	..	..	2	0
Dilantin	..	..	..	..	..	..	0	3
Methaqualone	..	..	..	..	..	..	1	0
Amtriptyline	..	..	..	..	..	..	0	1
Carbromal	..	..	..	..	..	..	1	0
Salicylate	..	..	..	..	..	..	0	2
Nitrite (in vomitus)	..	..	..	..	..	..	1 (1.1 mg %)	0
General drug analyses	..	..	..	..	..	..	0	10

Blood Chlorides

Blood specimens were submitted from 40 subjects whose death was apparently due to drowning in order to establish the cause of death. The chloride content of normal blood (expressed as sodium chloride) is of the order of 0.5 per cent. If a greater difference in chloride content than about 0.025 per cent is found between the right and left chambers of the heart, this is presumptive evidence that death was due to drowning.

In the specimens analysed, the chloride concentration varied from 0.34 per cent to 0.83 per cent in the left chamber and from 0.24 per cent to 0.66 per cent in the right chamber of the heart. In 18 of the 40 exhibits examined, the analytical figures indicated that death was due to drowning.

Carbon Monoxide

Fifty-one exhibits of post mortem blood were analysed to establish if the victims had died from carbon monoxide poisoning. Of these 8 were found to contain no carbon monoxide, 2 had less than a 50 per cent level of saturation, and 18 contained more than a 50 per cent level of saturation in the blood.

BLOOD ALCOHOL SECTION

Whilst this work continued to be carried out in the Biochemical Laboratory and under the control of the officer in charge of that section, its importance is such that it can be considered to be a distinct section of our work. When the new laboratories are occupied next year, this work will be carried out in a separate laboratory, and in anticipation of this change, it is considered desirable to describe this work separately.

Specimens are received for the analysis of blood alcohol in the following categories:

- (i) and (ii) Post mortem blood specimens from city and country coroners, mainly relating to deaths from motor accidents. A small number of specimens relating to cases of assault and murder are also received.
- (iii) From Police Authorities, from living people suspected of driving under the influence of alcohol ("D.U.I."). With the introduction of the Breathalyzer programme, the proportion of exhibits of this type can be expected to vary in future years since such people will generally be tested by means of the Breathalyzer.
- (iv) Exhibits submitted by medical practitioners who have taken a blood specimen at the request of people charged with driving under the influence of alcohol. Under the Breathalyzer scheme, people still have the right to have independent blood specimens taken in this way. Fifty-four such samples were received during the year.

Specimens of blood for the determination of alcohol are also received from hospitals. Such specimens are generally submitted as an aid to diagnosis but a number of post mortem specimens are also received.

In most cases, where organs are submitted for a toxicological examination, a blood sample for alcohol determination is also included as a matter of routine. The results of these analyses are included under the results of the toxicological section in appendix 2.

The number of analyses in the different categories are as follows, the alcohol percentages being expressed in grams per 100 ml:

Alcohol concentration	City Coroner	Country Coroners	Police Authorities (D.U.I.)	Hospitals and Medical Practitioners
None found	194	66	0	16
Less than 0.10 per cent	50	31	2	12
0.11—0.20 per cent	42	65	19	53
0.21—0.30 per cent	34	47	10	42
Over 0.30 per cent	15	11	0	8
Total cases	335	220	31	131

The highest figures obtained in the post mortem cases were 0.63 per cent and 0.57 per cent. In the latter case corroborative evidence was available to indicate that liquor ingestion was consistent with a figure of this magnitude and with alcohol poisoning being the cause of death.

Urine Alcohol

The belief still persists that urine is suitable as a specimen for the determination of blood alcohol and the ratio of Urine Alcohol:Blood Alcohol has been quoted by several authorities as being fairly constant and in the ratio of 1.33:1. The suitability of urine for alcohol determination is very much open to doubt and it only approaches a constant factor in relation to blood alcohol under certain conditions. These are that the patient should supply two urine specimens within an interval of approximately half an hour, the second specimen being that used for analysis. This requirement can pose obvious difficulties.

The fact that urine specimens taken without this precaution do not provide a constant factor may be seen from the figures obtained during the year where specimens of both blood and urine were submitted for analysis. Sixteen such sets of specimens were analysed, many being from post mortem cases. The blood alcohol content of these varied from 0.115 per cent to 0.345 per cent and the ratio of Urine Alcohol to Blood Alcohol varied from 1.08:1 to 1.83:1. In only four of these cases did this ratio approximate to 1.33:1. It is obvious that there is no value in submitting such specimens of urine for analysis.

Breathalyzer Programme

One of the major news items of 1968 was the introduction of the Breathalyzer instrument as the means by which it was hoped to reduce the road toll. This instrument was invented and patented by Borkenstein in America. These instruments are used by specially trained police officers and measure the breath alcohol, the corresponding blood alcohol being indicated on the instrument. A figure of 0.08 per cent blood alcohol as determined by this instrument was established by legislation as the limit above which it is an offence for a person to drive a motor vehicle. The first breath tests took place in Sydney on 19th December, 1968.

This section assists the Police Breathalyzer programme in various ways. It prepares the large volumes of standard alcohol solution needed to calibrate the Breathalyzers in use, analyses ampoules of the acid dichromate solution used with the instrument and assists in an advisory capacity in a variety of other ways.

During the four-week training course for police officers held in Sydney in November, Dr Dilli, the officer in charge of the Biochemistry Section, delivered a number of technical lectures for that course and participated in the practical instruction. In future courses, it is expected that analysts from this division will continue to assist the Breathalyzer programme.

CRIMINAL INVESTIGATION SECTION

Three hundred and seventy-six exhibits submitted in connection with 104 cases being investigated by the Police Department were examined during the year. This represents a 45 per cent increase over the number of exhibits examined in 1967. This increase in work required considerable overtime to be worked and a technical officer was also assigned to the section.

The analysts in this section attended court on 15 different occasions on behalf of the police. These court appearances were in both the metropolitan area and country areas of the State.

In many cases, the amount of material obtained from the scene of the crime or accident was only present in trace amounts. The main types of materials submitted as police exhibits were as follows:

Type of exhibit	No. of exhibits
Paint	162
Glass	37
Fibres and fabrics	18
Metals	15
Inflammable liquids	54
Plastic materials	8
Corrosive substances	7
Miscellaneous materials	75

The types of cases in respect to which these exhibits were submitted, included the following:

- Murder, manslaughter, malicious injury, assault.
- Rape and attempted rape.
- Armed hold up, malicious damage.
- Break, enter, and steal, theft, safe robbery.
- Culpable driving, fail to stop after accident.
- Negligent driving, driving under influence of alcohol.
- Arson, fire, explosion.

Some developmental work was undertaken in respect to the glass exhibits examined. It had previously been found that when these exhibits were sufficiently large in size (minimum area about 30 sq mm) but did not possess a plane polished surface, that it was preferable to grind and polish these exhibits by hand and determine the R.I. on a refractometer than to use the more tedious and less accurate Becke-line method. This year, arrangements were made to have suitable fragments imbedded in a resin and machine polished.

A Leitz Comparison Microscope was acquired during the year and used to good advantage in a number of cases for comparing exhibits. A Hilger and Watts spectrograph plate comparator was also obtained. This was found most useful for examining spectrograph plates and more convenient than the Judd Lewis comparator previously used.

A number of different substances that have been examined in connection with various cases has now been collected. It will be advantageous to eventually bring these items together to form a small museum of reference materials.

GOVERNMENT STORES SECTION

This section examines tender samples of various materials submitted in connection with contracts entered into by the Government Stores Department. Tender samples of meat, food, and drugs are also submitted by this Department but are examined in other sections of these laboratories.

One hundred and sixty-five such samples were examined during the year. Forty-four of these failed to comply with the appropriate specifications in one or more respects. The main classes of products examined were as follows:

Soaps, soap chips, and toilet soaps	88
Detergents	28
Disinfectants and deodorants	23
Lubricating oils	10
Miscellaneous products	16

Suitable methods of analysis for the materials most commonly analysed in this section were brought together during the year in the form of a standard methods book. Work now needs to be undertaken to develop suitable practical methods for evaluating the quality of many of these products. Such “consumer type” testing, carried out under laboratory conditions, should be complementary to the chemical and physical criteria laid down in the various specifications and is necessary to give a proper evaluation of many products.

WATER SECTION

Eight thousand four hundred and thirty-two samples were examined in this section during the year which represents a 15·3 per cent increase over the number of samples submitted in 1967 and a 22·8 per cent increase over the number of samples submitted in 1966, showing that the work of this section is steadily increasing. Analyses are carried out on water samples, sewage samples, and trade wastes.

Chemical Analyses

One thousand eight hundred and twenty-seven samples were submitted for chemical analysis.

The examination of samples of trade wastes was made difficult by the lack of information supplied with the sample in many cases. In other cases, however, prior consultation between this section and the inspectors submitting the samples has resulted in a properly planned series of samples being submitted with the necessary background information.

In addition to the chemical constituents routinely determined, determinations were made for specific substances in a number of cases. Detergents and metals were determined in a number of waters whilst trade wastes were examined for specific contaminants, in addition to the routine analysis.

A number of samples connected with the discharge of trade waste were examined for the presence of cyanide but only low levels were found. Samples of trade wastes were also examined for the presence of oil and grease. These ranged from light oils, kerosene and diesoline discharged from railway engine cleaning yards, to a heavy lubricating oil collected in a back water of a creek.

Metals

A high concentration of ten parts per million of antimony was found in a sample taken from Wild Cattle Creek, Bellingen Shire, downstream from an antimony mine.

All of the samples of potable water which were tested for arsenic contained less than the World Health Organization limit in drinking waters (0·05 p.p.m.).

A sample of water was submitted in connection with a complaint of green stains appearing on clothing which had been washed in this water. This water was found to have an acidic reaction and experiments carried out in the laboratory showed that the most likely reason for the blue staining was due to this acidic water being allowed to stand in contact with copper plumbing overnight, and then being used for washing purposes. Treatment of this water by passage through a chamber filled with limestone in order to neutralize the acidity, was recommended.

A number of samples, mainly trade wastes being discharged into creeks and rivers, were examined for the presence of the following metals—chromium, nickel, zinc, silver, magnesium, manganese, copper, aluminium, and lead.

Detergents

In view of the increasing importance of the discharge of non biodegradable detergents into the river systems of New South Wales a series of samples of water from various Western Rivers was examined for the presence of detergents.

Of the 15 samples examined, 2 contained 0·03 p.p.m. of detergent (calculated as alkyl benzene sulphonate), whilst the remainder all contained less than 0·01 p.p.m. This indicates that at the present time the occurrence of detergents in these rivers is not a serious problem. However, an extension of this survey is desirable as higher concentrations of detergents could occur in some of the smaller river systems which have not been examined.

Whilst the use of “hard” detergents has apparently not yet caused serious effects in our river systems nor adversely affected sewage treatment plants, there have been previous indications in certain areas that they could do so, and bearing in mind the experience of other countries with this class of detergent, steps have been taken through a committee of the N.H.M.R.C. for the community to to change over to the use of “soft” or biodegradable detergents within the next few years.

This laboratory participated in United States Department of Health, Analytical Reference Service Study, into the analysis of detergents by the Standard Methylene Blue Method. Three different samples of water were analysed for the presence of linear alkylsulphonate (LAS). Reference samples of LAS were supplied from the United States, together with a sample of Methylene Blue. Duplicate determinations were also carried out using Methylene Blue which was already available in this laboratory.

This survey was carried out in order to determine the applicability of this method which was developed for the estimation of alkyl benzene sulphonates (ABS), for the determination of LAS.

Automated Analyses

During the early part of the year the use of automated analysis in connection with the determination of free and organic ammonia was investigated with a view of cutting down the length of time required to carry out these analyses. The method was found unsatisfactory due to the fact that the lowest concentration of ammonia which could be detected by this method was 0.2 parts per million, which is regarded as the upper limit for ammonia in drinking waters. This method was therefore discarded due to its relative insensitivity, and the fact that only samples free from suspended matter were suitable for use in this equipment. The use of the automated analysis unit for the estimation of detergents was also investigated, and found to be unsuitable due to the fact that methylene blue became absorbed on the walls of the colorimeter cell causing inaccuracies in this determination.

Whilst automated analysis unfortunately does not appear to be applicable to the routine chemical analyses carried out in this section, this unit is expected to find use in other sections of this Division in the future.

Bacteriological Analyses

Six thousand four hundred and forty-six samples of water, sewage, and trade wastes were subjected to bacteriological examination. In the majority of cases, when a sample is submitted for chemical analysis, additional samples are also submitted for bacteriological examination and the results of both types of examination correlated before issuing a report.

It is again necessary to draw attention to the fact that samples of sewage submitted for examination should be restricted to those cases where specific problems have to be investigated, for instance the reduction of bacteriological levels in oxidation ponds, or to indicate whether chlorination has been satisfactory or not in treated sewage effluents.

Bacteriological results cannot be relied upon to indicate the extent of purification achieved in the various stages of a sewage treatment works. This information is best supplied by a chemical analysis. Routine bacteriological analyses of samples of sewage yields no useful information and wastes a large amount of the laboratory's time and materials.

Algal Samples

As in previous years, complaints continue to be received concerning taste and odours in drinking water supplies. Due to the staff shortages in this section it was not always possible to carry out a full examination of all algal samples submitted.

For the same reason the simple field test intended for the detection of algae in water supplies could not be developed. It is hoped to be able to continue the work on this test during the coming year. A number of samples were submitted for examination which showed the presence of algal "blooms", and advice was given on suitable treatment.

Samples of sand submitted from clogged water filtration works were also examined. A microscopical examination showed that all of the samples of sand were blocked with a jelly like material completely coating the individual grains of sand, and blocked the interstices. This material contained numerous diatom skeletons and organic matter, together with ferruginous matter. Traces of manganese and aluminium were also found. Replacement of the media was recommended.

River Pollution

Although no separate records have been maintained, it is estimated that of the total number of water samples examined, approximately 10 per cent were submitted in connection with the alleged pollution of natural water courses. This subject is a specialized one, consequently routine samples cannot be expected to give all of the information needed in order to investigate these problems satisfactorily.

Because of the specialized nature of this work and the number of specific constituents that may need to be determined on individual samples, it was found necessary to allocate an analyst to undertake the analysis of samples specially submitted in relation to pollution problems. In addition, a large number of B.O.D. analyses have had to be carried out on such samples this being a basic test on all samples of water which may have been polluted.

In order to effectively deal with this problem, a separate laboratory for this purpose will eventually be required. Samples of river water and trade effluents suspected of having caused river pollution require a much more detailed and searching examination than do samples of potable water. The number of substances which can cause pollution in this highly industrialized age, are legion, and without some pre-knowledge of the likely cause of pollution, the chance of detecting a particular pollutant is remote.

Consequently a close liaison between the inspector taking the samples and the laboratory is essential. A great deal of information can be obtained from a site investigation and a visit to the offending premises before taking samples. Too often a sample is taken and submitted to the laboratory without any information other than the name of the stream and the terse comment “pollution”, written on the request for analysis form. In the circumstances all that can be done is to carry out what may be described as a routine pollution examination which could well miss the actual cause of the problem. Each pollution problem is individual, and has to be treated as a special investigation if positive results are to be obtained.

The level of routine work dealt with in this laboratory does not allow for the detailed examination of these samples in any but small numbers.

Field Investigations and Inspections

A field investigation was made at the request of the Electricity Commission of New South Wales into the provision of a satisfactory drinking water supply at Liddell Power Station. Laboratory examinations had shown that the proposed water supply was excessively saline, although the water from which this supply was apparently derived, was of satisfactory chemical quality. This site investigation revealed that water had been held in a large open reservoir for a long period thus allowing concentration of the water to take place. A report was prepared giving recommendations for the improvement of the potable water supply for the power station.

During the year a number of water supply installations were inspected in the North Western, North Coast, and Newcastle Health Districts.

FLUORIDATION SECTION

The fluoridation of Public Water Supplies continued to progress in this State. During the year fluoridation commenced at Leeton, Cowra, and Moss Vale, bringing the number of country plants in operation to 26 and the number of country centres receiving fluoridated water to 28. In addition, the area served by the Metropolitan Water, Sewerage and Drainage Board started to receive fluoridated water, with the exception of the South Coast-Wollongong section. In all, the population served with fluoridated water in N.S.W. is now more than 2·6 million.

Approval has been given for the installation of new plants at Urbenville, Crookwell, Adaminaby, Berridale, and Jindabyne. In addition modifications were approved for the existing plants at Hay, Cooma, and Yass.

Two schools for the training of operators and others associated with the running of fluoridation plants were held. Thirty-nine candidates successfully completed the courses making a total of 226 persons now trained.

A total of 31 centres were visited during the year in connection with the investigation, supervision, and commissioning of fluoridation plants.

Samples of water received for the estimation of fluoride content numbered 338 as compared to 162 in 1967. This increase was due to a stricter adherence by councils to the requirements of the Fluoridation of Public Water Supplies Act, following a vigorous campaign to this end by the section.

GENERAL

Work on the new laboratories is nearing completion and it is expected that the division will occupy its new premises at Joseph Street, Lidcombe, in July, 1969. Because of the present cramped conditions, some curtailment of analytical work has been necessary. It is expected that most of these restrictions will be removed when the new laboratories become operative. Certain additions to the scientific equipment of the division will also be made in the new building.

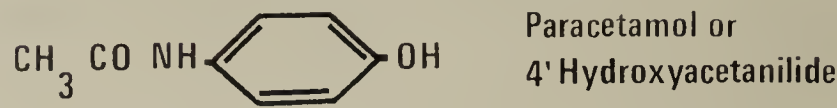
APPENDIX I—ORIGIN OF SAMPLES RECEIVED

Source of authority	1967	1968
Pure Food Act (Various authorities—milk, meat, miscellaneous foods, bact. samples)	16,783	15,946
Government Stores Department (foods, meats, drugs, miscellaneous contract samples)	528	719
Coroners Enquiries (toxicological cases, post mortem blood alcohols)	1,269 cases	1,256 cases
Police Authorities (drugs, criminal investigation, driving under influence etc.) ..	157 cases	225 cases
Division of Occupational Health (metals, dusts, pesticides, etc.)	289	333
Local Government Authorities and Government Departments (water, sewerage, and trade wastes)	7,472	8,770
Miscellaneous Authorities (food and miscellaneous materials)	2,585	3,489

APPENDIX 2—RESULTS OF VISCERAL EXAMINATIONS

Nature of Drug						Number of cases in which found
No poisons found ..	..	..	..	..	..	183
Ethyl Alcohol—						
None found ..	..	..	..	..	..	316
·015–·050 % ..	..	..	..	..	..	55
·055–·150 % ..	..	..	..	..	..	88
·155–·300 % ..	..	..	..	..	..	67
Over ·300 % ..	..	..	..	..	..	14
Methyl Alcohol ..	..	..	..	..	..	1
Carbon Monoxide ..	..	..	..	..	..	20
Blood Chlorides (Suspected drowning) ..	..	..	..	..	..	15
Barbiturates—						
Amylobarbitone ..	..	..	..	..	..	78 (including 11 “Tuinals”)
Butobarbitone ..	..	..	..	..	..	6
Butabarbitone ..	..	..	..	..	..	7
Pentobarbitone ..	..	..	..	..	..	171 (including 67 “Carbritals”)
Phenobarbitone ..	..	..	..	..	..	11
Quinalbarbitone ..	..	..	..	..	..	27 (including 11 “Tuinals”)
Methyl Phenobarbitone ..	..	..	..	..	..	1
Derivatives of Barbituric acid (unclassified) ..	..	..	..	..	..	9
C.N.S. Depressants (Non-Barbiturate)—						
Brominated Ureides ..	..	..	..	..	..	101 (including 67 “Carbritals”)
Glutethimide ..	..	..	..	..	..	10
Methaqualone ..	..	..	..	..	..	8
Phenytoin ..	..	..	..	..	..	4
Primidone ..	..	..	..	..	..	1
Phenacetin ..	..	..	..	..	..	8
Paracetamol ..	..	..	..	..	..	8
Potassium bromide ..	..	..	..	..	..	4 (no brominated ureide present)
Salicylic acid ..	..	..	..	..	..	26
Chloral ..	..	..	..	..	..	14
Ether ..	..	..	..	..	..	1
Ethyl Chloride ..	..	..	..	..	..	1
Paraldehyde ..	..	..	..	..	..	1
Alkaloids and Related Compounds—						
Strychnine ..	..	..	..	..	..	4
Morphine ..	..	..	..	..	..	1
Quinine ..	..	..	..	..	..	1
Quinidine ..	..	..	..	..	..	3
Methadone ..	..	..	..	..	..	1
Theophylline ..	..	..	..	..	..	1
Methyl Amphetamine ..	..	..	..	..	..	2
Dextroamphetamine ..	..	..	..	..	..	2
Dextromoramide ..	..	..	..	..	..	1
Tranquilisers and Antihistamines—						
Amitriptyline ..	..	..	..	..	..	11
Chlorpromazine ..	..	..	..	..	..	9
Promethazine ..	..	..	..	..	..	4
Thioridazine ..	..	..	..	..	..	4
Pericyazine ..	..	..	..	..	..	1
Trifluoperazine ..	..	..	..	..	..	1
Chlordiazepoxide ..	..	..	..	..	..	4
Imipramine ..	..	..	..	..	..	4
Diazepam ..	..	..	..	..	..	3
Opipramol ..	..	..	..	..	..	1
Diphenylhydramine ..	..	..	..	..	..	1
Herbicides, Pesticides and Germicides—						
Sodium Chlorate ..	..	..	..	..	..	2
4 Chloro-2 methylphenoxyacetic acid ..	..	..	..	..	..	1
4,6 Dinitro o-cresol ..	..	..	..	..	..	1
Paraquat ..	..	..	..	..	..	1
Diquat ..	..	..	..	..	..	1
Maldison ..	..	..	..	..	..	1
Parathion ..	..	..	..	..	..	1
Mevinphos ..	..	..	..	..	..	1
Cresol ..	..	..	..	..	..	1
Iodine ..	..	..	..	..	..	2
Metals—						
Arsenic ..	..	..	..	..	..	12
Lead ..	..	..	..	..	..	2
Antimony ..	..	..	..	..	..	1
Mercury ..	..	..	..	..	..	1
Others—						
Cyanide ..	..	..	..	..	..	4
Toluene ..	..	..	..	..	..	1
Tolbutamide ..	..	..	..	..	..	1
Chloroquine ..	..	..	..	..	..	2

APPENDIX 3—PARACETAMOL—BARBITURATE SEPARATION*



Equipment

- Decalso F.—Washed with hot chloroform, ether and methanol. Activated at 105° C for 6 hours. Store in a container with dry air (desiccator).
- Dry Chloroform.—Distilled, washed with water then dried, using silica gel.
- Technical Ether (anhydrous).
- Methanol.
- Burette.—50 ml type.

Method

- Take 6 ccs of Decalso F and mix with some chloroform and transfer to burette to make the column.
- Dissolve sample in dry chloroform and add to column. If all the sample will not dissolve in 3 lots of CHCl₃, keep the residue and read it on the UV in CH₃OH to estimate the undissolved paracetamol.
- Wash column with CHCl₃—20 ml.
- Elute the barbiturate with (1) 50 ml, (2) 20 ml, (3) 20 ml of ether. ((3) may contain some paracetamol.)
- Elute with (4) 20 ml, (5) 20 ml Methanol.
- Read (4) and (5) on UV in CH₃OH and estimate paracetamol. (2) and (3) can also be read in CH₃OH if there is a suspicion that the paracetamol is present, if absent evaporate, and read as barbiturate.
- Read (1), (2) and (3) on UV in NaOH/Buffer to estimate barbiturate.
- Paracetamol $E_{1\text{cm}}^{1\%} 248 \text{ mu in CH}_3\text{OH} = 884.$

(* Developed by D. M. Wallis, B.Sc., A.S.T.C.)

Division of Forensic Medicine

Director: Dr JOHN LAING, M.B., B.S., M.C.P.A.

Location: Division of Forensic Medicine, 102 George Street, Sydney

Medico-legal Section.—Five Medical Officers, 9 Morgue Assistants.

Medico-legal Laboratory.—One Forensic Microbiologist, 1 Microbiologist, 1 Medical Technologist, 2 Laboratory Assistants-in-Training, 1 part-time trainee Laboratory Assistant, 1 Laboratory Assistant, 2 Laboratory Attendants, 3 Office Assistants.

ACTIVITIES

1. Medico-legal Section

This section performs autopsies upon all bodies coming under the jurisdiction of the City Coroner. It works in close co-operation with Metropolitan Police Force and is available to visit scenes of crime when requested. It undertakes post graduate training and demonstrations in forensic matters to interested medical practitioners. The section undertakes the medical investigation of aircraft fatalities in New South Wales on behalf of the Department of Civil Aviation and the Royal Australian Air Force, visiting the scene of the accident as required and performing the requisite autopsies. It gives advice and assistance to country coroners and medical practitioners throughout the State. The section also undertakes the examination of criminal assault for the Police Department. The medical staff is required to give evidence in various courts in connection with this work. The above services are available day and night all the year round.

As there are five pathologists performing the work in this section it was hoped that from this number, the division could establish a “flying squad” to assist in various coronial cases throughout the State. Inevitably, however, they have become fully absorbed in the increasing demands of the metropolitan area and the concept of a “flying squad” still remains to be implemented. This is unfortunate since the demands for our services by country police and coroners, due to the inadequacies of their local forensic facilities, are increasing. It also explains why there is difficulty in supplying a pathologist to attend distant aircraft fatalities.

Table 1 gives a comparison of the activities for the years 1967 and 1968.

TABLE 1

		Year ending 31st December, 1967	Year ending 31st December, 1968
Autopsies for City and Country Coroners (including week-ends)	..	2,500	2,468
Examination of Criminal Assault Cases	.. .. .	115	117

The number of necropsies shows a slight decline probably due to the rising number of autopsies being performed in metropolitan hospitals by permission of the City Coroner, particularly when organ transplant material is required.

2. Medico-legal Laboratory

The laboratory provides pathological and biological services to assist in the investigation of crimes and in the determination of causes of death in cases for various coroners. The work includes histopathology, the grouping of blood and secretions, the investigation of blood stains and seminal stains and the examination of hairs and fibres. These services are available for both metropolitan and country cases. A detailed analysis of the specimens submitted and the number of examinations performed is given in table 11. There has been a general increase in most areas.

The following material from the City Morgue autopsies was submitted to the Institute of Clinical Pathology and Medical Research for further investigation:

Bacteriology
17

Virology
49

The total numbers of the different categories of investigations have risen in 1968 and in the case of some categories the increase is marked. This in part is due to our continued efforts to increase the standard of forensic practice in the country district of New South Wales. As far as country coroners and police are concerned, there is a growing awareness of the need for a more satisfactory standard of forensic investigation which, in many instances, they cannot obtain locally under the present Government Medical Officer system. This section is also providing an increasing amount of medical photography, both in colour and in black and white which forms a most useful record of evidence.

SPECIAL FEATURES OF THE YEAR'S ACTIVITIES

The director continues to lecture in forensic medicine to both the University of Sydney and the University of New South Wales.

This year, it has been possible to assist several country authorities by personal visits, the most notable being an exhumation for suspected murder at Adelong in March.

In May, 1968, the Forensic Microbiologist, Mr L. F. Horton travelled to Adelaide, South Australia to investigate certain scientific work being carried out on the possible blood grouping of human hair which, if successful, has important forensic implications in the identification and comparison of hairs. Mr Horton is currently working on the development of these methods.

In the latter part of the year the division was fortunate in recruiting the services of Dr M. A. Green, who has received forensic training in the United Kingdom.

Amongst the special necropsies performed during the year there were two for the Royal Australian Navy following a helicopter crash at Nowra, and three for the Department of Civil Aviation.

There has been considerable interest this year in the availability of organs from coroners' cases for human transplant. Arising from this and from other factors there have been combined conferences of medical and legal authorities to explore the possibility of conducting autopsies on certain coronial cases at teaching hospitals.

Accommodation

The cramped accommodation of the division in all sections continues to cause concern. Some temporary measures have been carried out to relieve the position to a degree. In March, offices and library space were obtained for the pathologists at Parkes House, 58 Bridge Street. This move has alleviated the accommodation shortage but it has also caused some problems in administration and communication due to separation of sections of the division.

The present storage capacity of the City Morgue for only thirty bodies is also greatly overloaded. Extra storage space for bodies has been obtained with the co-operation of Lidcombe Hospital, Callan Park Hospital, and Gladesville Hospital, but here again, the dispersal raises administrative problems.

The Medico-legal Laboratory suffers similarly with lack of storage space for exhibits and shortage of space for staff and equipment. The solution to these difficulties lies with the completion of the division's proposed new accommodation in Parramatta Road, Camperdown. The arrangements for this are proceeding satisfactorily. Work has been commenced on the site, and completion of the building is expected in May, 1970.

TABLE II – ACTIVITIES OF THE MEDICO-LEGAL LABORATORY 1ST JANUARY, 1968 TO 31ST DECEMBER, 1968

	Number of specimens submitted					Number of tests performed				
	Police	Morgue	Misc.	Year ending 31-12-67	Year ending 31-12-68	Police	Morgue	Misc.	Year ending 31-12-67	Year ending 31-12-68
Whole blood for grouping ..	97	29	..	83	126	396	110	..	347	506
Garments, weapons, etc., for grouping of blood stains and determination of origin of blood	497	1	3	474	501	1,906	22	..	1,787	1,928
Vaginal smears for spermatozoa	174	51	2	98	227	274	93	2	114	369
Garments etc., for the detection of seminal stains	512	2	..	457	514	1,324	8	..	678	1,332
Specimens of hair	150	27	..	174	177	1,369	110	..	459	1,479
Post mortem tissues for histopathological examination ..	79	723	..	961	802	491	5,221	..	7,101	5,712
Total	1,509	833	5	2,247	2,347	5,760	5,564	2	10,486	11,326

Division of Occupational Health

Acting Director: Dr E. O. LONGLEY, M.B., B.S.

Location: 86-88 George Street North, Sydney, 2000

FUNCTIONS

The division is a Medical and Scientific one, providing advisory services to industry; in addition, it administers legislation relating to atmospheric pollution and the safe use of radioactive substances and irradiating apparatus.

The division comprises three branches:

- (i) Radiation;
- (ii) Air Pollution Control; and
- (iii) Industrial Hygiene.

The Industrial Hygiene Branch includes Industrial Toxicology, Agricultural Health, Noise, the evaluation of Personal Protective Equipment, and Ergonomics.

The clerical staff serves all sections of the division.

NEW OFFICE AND LABORATORY ACCOMMODATION

Due to construction delays, the division will not move to Lidcombe before May, 1969.

STAFF

Dr Alan Bell, the Director, who has been overseas since June, 1966, returns to duty January, 1969, after having worked with the World Health Organisation as Chief of the Occupational Health Unit.

Dr E. O. Longley, Acting Director since 1966, has been awarded a 7-months World Health Organisation Fellowship to study Occupational Health abroad and plans to leave in March, 1969.

Mr R. P. Murphy, Chief Air Pollution Control Engineer and Mr W. E. Foskett, Scientific Officer of the Radiation Branch, have both been awarded National Health and Medical Research Council Fellowships for 1969.

Dr G. J. Cleary was invited as a special guest speaker to the New Zealand Air Pollution Symposium in Auckland in September, whilst Mr R. P. Murphy attended the A.N.Z.A.S. Congress and the Air Pollution Control Officers' Conference in Christchurch, in January, 1968.

Dr R. Barnes left to take up an appointment as Deputy Medical Officer of Health, North Coast Health District.

Dr R. E. Simson has been appointed and joins the division in January, 1969.

Mr S. Himbury, Demonstrator in Human Kinetics, resigned to take up an appointment as Training Officer, at the Savage River Mines, Tasmania. He was succeeded by Mr K. Betts.

The division's establishment was increased by one to sixty; in authorized strength to sixty-one.

REPRESENTATION ON COMMITTEES AND APPOINTMENTS

Divisional staff represented the Department on 69 medical, nursing, technical, or scientific committees and associations, etc., including 15 newly formed ones.

Dr E. O. Longley was appointed Chairman of the Workers' Compensation (Dust Diseases) Medical Authority.

Mr J. G. Allen was appointed Chairman of the Industry Standing Committee of the N.S.W. Association for Mental Health.

Mr Welch has been appointed to the Examining Panel of the Industrial Design Council of Australia.

Dr G. J. Cleary was appointed member of the Federal Council, Clean Air Society of Australia and New Zealand, of the Executive Committee of the International Union of Air Pollution Prevention Associations, and of the Programme Committee for the 2nd International Clean Air Congress.

The division is represented on several committees of the N.S.W. Department of Labour and Industry and of the Standards Association of Australia, including safety in compressed air work, and the use of brazing filler metals (Mr A. T. Jones).

Mr H. R. Weston is a member of three committees dealing with noise.

STATISTICAL DATA

The main activities of the division are summarized and classified into several broad categories.

Type of activity	Totals		
	1966	1967	1968
(1) <i>Industrial Health</i> —			
Investigations by scientific staff	1,300	1,306	1,441
(a) Agricultural .. .. .	..	125	145
(b) Noise .. .. .	..	197	253
(c) Personal protective equipment .. .. .	..	45	33
(d) Ergonomics .. .. .	..	413	430
(e) Toxicology .. .. .	..	526	580
(f) Ventilation of halls and theatres .. .. .	..	5	7
(2) <i>Medical Activities</i> —			
(a) Investigations, inspections and visits by—			
Medical officers	161	177	121
Adviser occupational health nursing	101	96	72
(b) Examinations and evaluations	2,389	1,866	2,304
(i) Medical examinations and spirometry	768	1,494	891
(ii) Field cholinesterase tests	170	260	527
(iii) Bicycle ergometry and work physiology tests	510	50	807
(iv) Vision screening	103	62	79
(c) Pathology laboratory—Blood slides examined for evidence of lead poisoning:			
(i) Sent in by factory medical officers	4,302	4,552	4,522
(ii) From patients seen at the division	229	309	322
(iii) Other pathological tests	3,350	4,413	5,335
(3) Radiation investigations and inspections	1,282	1,305	1,326
(4) Air pollution investigations and inspections	4,559	5,775	3,400

The increased use of pesticides in 1968, following drought conditions in 1967, resulted in an increase of cholinesterase field tests.

A large number of ergometer tests were for exhibition purposes and of public relations value only.

EDUCATIONAL ACTIVITIES

(a) Publications

Six articles were published overseas, viz:

- (1) “Cotton Dust Exposure During Lint Removal.” G. R. Simpson: A.M.A. Archives Envir. Health, vol. 17, no. 5—March, 1968.
- (2) “Raynaud’s Phenomenon.” E. O. Longley. Safety Standards, U.S.A., vol. 17, no. 4—July, 1968.
- (3) “Air Pollution Problems Involved in the Incineration of Refuse.” R. P. Murphy. Proceedings of A.N.Z.A.S. Congress, Christchurch—September, 1968.
- (4) “The Role of Air Pollution Societies.” G. J. Cleary. Proceedings of the Air Pollution Symposium, Auckland, New Zealand—September, 1968.
- (5) “Mercurialism.” E. O. Longley, R. Barnes, and A. T. Jones. Medical Trial Technique Quarterly—September, 1968.
- (6) “Air Pollution in Native Huts in the Highlands of New Guinea.” G. J. Cleary and Prof. C. R. B. Blackburn. A.M.A. Archives Envir. Health, vol. 17—November, 1968.

Drs Longley and Trainor and Messrs Welch and Himbury were invited to contribute articles to the forthcoming I.L.O. World Encyclopaedia of Occupational Health and Safety.

The division published a booklet on “Ergonomics”. In addition, 62 article were accepted for publication in Australian journals; these included:

- “Cases of Absorption and Poisoning by the Insecticide Phosdrin.” A. Bell, R. Barnes, and G. R. Simpson. Medical Journal of Australia, vol. 1, no. 5—February, 1968.
- “The Contribution of Different Sources to Pollution by Polycyclic Aromatic Hydrocarbons.” G. J. Cleary. Journal of the Clean Air Society, vol. 2, no. 1—March, 1968.
- “Ergonomics.” J. G. Allen. Australian National Clay, vol. 9, no. 5—May, 1968.
- “Ventilation Capacity Changes on Exposure to Cotton Dust.” R. Barnes and G. R. Simpson. Medical Journal of Australia, vol. 1, no. 21—June, 1968.
- “Chemistry of Formation of Polycyclic Hydrocarbons General Consideration, Formation of 3-4 Benzpyrene.” G. J. Cleary. Journal of Clean Air Society, vol. 2, no. 2—June, 1968.
- “Pollution from Cold Blast Foundry Cupolas.” G. J. Cleary and D. G. Palmer. Journal of Clean Air Society, vol. 2, no. 2—June, 1968.

- "Problems Encountered in Incineration of some Difficult Trade Wastes." J. R. Harry and J. McLeod. *Journal of Clean Air Society*, vol. 2, no. 2—June, 1968.
- "Chemistry of Formation of Polycyclic Hydrocarbons Pyrene, Fluoranthene, 1, V. Benzantracene Chrysene and Triphenylene." G. J. Cleary. *Journal of Clean Air Society*, vol. 2, no. 3—September, 1968.
- "The Role of the Clean Air Society in the Discipline of Air Pollution." G. J. Cleary. *Journal of the Clean Air Society*, vol. 2, no. 3—September, 1968.
- "Chemistry of Formation of Polycyclic Hydrocarbons, 1, 2 Benzopyrene, 3, 4 Benzofluoranthene, 11, 12 Benzofluoranthene Perylene, 1, 12 Benzoperylene and Larger Molecules. G. J. Cleary. *Journal of the Clean Air Society of Australia and New Zealand*, vol. 2, no. 4—December, 1968.
- "Commonsense and Ergonomics." E. O. Longley. *Australian National Clay*, vol. 9, no. 12—December, 1968.

(b) Lectures

Four hundred and six lectures were given, a number at university and post-graduate university levels.

Twenty-four papers were given at 14 Australian Congresses, Conventions, Conferences, and Seminars—namely at—

Symposium on Health in Industry—February

- (a) Historical Highlights of Health in Industry (Dr E. O. Longley).
- (b) The Occupational Health Sister in Industry (Miss E. G. Roach).
- (c) Health Education Programmes in Industry (Dr R. Barnes).
- (d) The Role of the Industrial Hygienist (Mr A. T. Jones).

Symposium of Noise in Industry—February

Auditory Hazards in Primary Industries (H. R. Weston).

The Third Australian Medical Congress—August

Prevention of Industrial Dermatitis (Dr E. O. Longley)

The First Australian Pneumoconiosis Conference—August

- (a) Pneumoconiosis in New South Wales (Dr E. O. Longley).
- (b) Evaluation of Dust in Tunnels and Trenches (Mr A. T. Jones).

The Sixth Conference of Occupational Therapists—August

Ergonomics, A Special Kind of Common Sense (Dr E. O. Longley).

The Australian Sports Medicine Federation Seminar—August

Fitness of the Average Male and its Testing (Mr J. G. Allen).

Can Testing of Physical Fitness of School Children Help us to Predict their Fitness as Adults (Dr E. O. Longley).

The Australian and New Zealand Ergonomics Society 5th Annual Conference—August

- (a) Teaching Ergonomics in Industry (Mr J. G. Allen).
- (b) Tenosynovitis, an Industrial Problem (Mr R. Welch).

Occupational Health Scientific Officers Conference—August

Measurement and Meaning of Physical Fitness (Mr J. G. Allen).

N.S.W. Safety Convention and Exhibition—August

- (a) Prevention of Industrial Dermatitis (Dr E. O. Longley).
- (b) Modern Developments in Respiratory Protection (Mr J. G. Hughes).
- (c) Practical Functioning of First Aid and Medical Services in Industry (Miss E. G. Roach).
- (d) The Nature of Sound and the Assessment of Noise (Mr H. R. Weston).

The International Acoustics Symposium—September

Some Practical Aspects of Hearing Conservation in Industry (Mr H. Weston).

Australia's Human Resources Conference—September

The Direct and Indirect Benefits of Ergonomics in Industry (Dr E. Longley).

New Zealand Air Pollution Symposium, Auckland—September

The Role of the Clean Air Society in the Discipline of Air Pollution (Dr G. J. Cleary)

The First Annual Conference, Australian Society of Occupational Medicine—October

The Present State of Occupational Medicine in Australia (N.S.W.) (Dr E. O. Longley).

Joint Urbanization Seminar—December

Air Pollution and Urban Development (Mr R. P. Murphy).

A.N.Z.A.S. Congress on Pollution of the Environment, Christchurch—September

Air Pollution Aspects of Incineration (Mr R. P. Murphy).

MEDICAL SERVICES

Dr D. C. TRAINOR and Dr R. BARNES

The decrease in the numbers of patients examined at the division was partly due to its staff shortages and partly as a result of the requirements of the new Workers' Compensation (Dust Diseases) Act which came into force in February, 1968. This legislation resulted in an increased number of applications for compensation necessitating the prolonged absence of Dr Trainor from the division. Unfortunately, staff shortages also severely limited the number of in-plant investigations possible.

Following overseas reports concerning carcinoma of the lung and mesothelioma of the pleura associated with the use of asbestos, a number of these tumours have been identified in asbestos workers.

OCCUPATIONAL HEALTH NURSING ADVISORY SERVICE

Miss E. G. ROACH, Adviser in Occupational Health Nursing

1968 was a progressive year for Occupational Health Nursing there being many indications of an increased acceptance by industry, and others, of the correct role of the Occupational Health Nurse. At the Australian Medical Congress visiting Occupational Health Medical Consultants strongly recommended that Industrial Medical Officers should do everything possible to further stimulate this trend. The Chief Inspector of Factories has given unequivocal support to Occupational Health Nursing.

Miss Roach organized an Occupational Health Nursing Section of the Australian Trained Nurses Association, representing it on the latter's Council. She is also a member of the Education and selection Committees of the N.S.W. College of Nursing, the Sub-Committee for Mental Health Counselling in Industry of the Gladesville Preventive Committee, the Council of the N.S.W. Bush Nursing Association, and the N.S.W. Association for Mental Health for New South Wales. She was also elected to membership of the N.S.W. Institute of Hospital Matrons and was re-elected as President of the Occupational Health Sisters Association of New South Wales and the A.C.T.

Post-graduate Education

The Occupational Health Nursing Certificate Course, N.S.W. College of Nursing, curriculum was revised by a multidisciplinary panel. Students visited the division as part of their instruction; seven sisters successfully completed the course.

Departmental Refresher Sessions

At these meetings emphasis was placed on the role of the Occupational Health Sister, ethics, policy, and her local nursing background. The March and November meetings were open to management and medical officers.

Mr F. J. Darling, Executive Director, Employers' Federation of New South Wales, opened the March Session; there was great interest in the panel discussion on "Organizing a Medical Service and Centre within Industry."

The July session was opened by the Hon. E. A. Willis, Minister for Labour and Industry; he stressed the community value of the Occupational Health Sister. Papers were given on the "Organization for Health and Safety within the Work Area". This was followed by a seminar discussion on the organization for health and safety within the working area.

Sir William Hudson, K.B.E., opened the November Session, speaking on Road Safety. Mr E. F. Gillin's address on the Sister's contribution to the economic structure of industry and commerce created a great deal of interest.

Industrial Mental Health Counselling by Occupational Health Sisters

A course of instruction on Mental Health Counselling was arranged and organized by the Preventive Committee of Gladesville Hospital jointly with Miss Roach and Mr J. Allen of this division. The first course, extending into 1969, was limited to 30, including 6 sisters from the Bureau of Maternal and Child Welfare; there is a waiting list for the next course.

Bush Nurses

As in previous years, Occupational Health initiation programmes were organized for Sisters (8) from the N.S.W. Bush Nursing Association.

Visits to Organizations

The 72 visits previously listed included 33 to factories and 39 for liaison purposes. It was not possible to visit the Newcastle area; on the other hand, Wollongong, Lithgow, Bathurst, and Orange were visited.

Legislation

A number of meetings were held with the Chief Inspector of Factories concerning requirements for employment of nurses in industry and for the design of medical centres.

INDUSTRIAL HYGIENE BRANCH

Officer-in-Charge: Mr A. T. JONES

There was a further increase in the number of factory visits made in 1968; 1,441 compared with 1,306 in 1967.

First Australian Pneumoconiosis Conference

The division was represented on both the Planning Committee and Technical Sub-committee. Two papers were presented by the division. 300 representatives of industry and Government and 3 overseas experts attended.

Industrial Toxicology

Mr A. T. JONES, Mr R. C. JONES, Mr G. R. SIMPSON, Mr A. SCHARF

Aluminosis

A case of aluminium dust disease of the lung has been provisionally diagnosed in an aluminium welder "using the argon gas shield process over a period of 2 years". Exposure to fume during part of the work was above the maximum allowable concentration of 15 milligrammes per cubic metre of air, tentatively adopted on the basis of comfort as no suggested limit has been proposed for health effects. Biopsy slides of lung tissue have been sent to Professor Gough, at the Thoracic Unit, Cardiff University, Wales, for further examination and confirmation.

Silver Brazing

A survey of cadmium exposure during brazing with alloys containing this metal revealed exposures in excess of the recommended threshold limit of 0.1 milligrammes/cubic metre except where local exhaust ventilation was specially applied. Concentrations ranged from 0.3–3.5 milligrammes/cubic metre and exposures vary from half an hour to 6 hours per day. The three affected workers were hospitalized due to cadmium fume poisoning; all showed oedema on X-ray and were treated symptomatically for several days. An interesting feature in one case was a persistent greenish staining of the tongue and metallic taste. A recently drafted Australian Standards Association Code will now require warning labelling of cadmium-containing silver brazing alloys.

Water Flow Attachments to Pneumatic Jackpicks

Following development of water flow attachments to jackpicks, delivering a continuous flow to the pickpoint, and the widespread use of these attachments by the Metropolitan Water, Sewerage and Drainage Board in trenching in sandstone, dust exposure tests carried out on their behalf have indicated average concentrations, all tests, to have fallen from 1,045 particles per cubic centimetre in 1966 to 145 in 1968. This represents a significant reduction in the silicosis hazard associated with trenching, tunnelling, and other excavation work. The success of the attachment has stimulated interest outside the Board, resulting in experimental designs being developed by private excavating contractors and equipment hirers.

Continuous dust testing is being carried out for the board on a routine basis in all their works and experimentation with dust control mechanisms on other excavating machinery is also being done.

Home Fumigation with Sulphur Dioxide

Because of severe flea infestation, a home was closed up and fully fumigated by the occupants who burned several pounds of sulphur in saucers spread throughout the house. The division was called to advise concerning re-entry and clearing the house of gas. Due to the extremely hazardous overall situation, the branch undertook this work.

Waterfront Investigations

On a number of occasions attention has been drawn to hazardous situations from poor storage of materials, including caustic potash, arsenic, toluene di-isocyanate, tetraethyl lead and solvents, coming from overseas. The attention of local authorities controlling the waterfront has been drawn to this matter with recommendations that more careful attention should be paid to the problem by international authorities.

In the case of a leakage of tetraethyl lead from faulty containers, which occurred in a recent episode in the hold of a ship in Sydney, recommendations for prevention of future leakages by maintenance and discarding of suspect containers, were referred to the National Health and Medical Research Council for consideration by the Inter-Governmental Maritime Consultative Organisation. Prompt and efficient decontamination of the tetraethyl lead by the importing company together with regular monitoring of airborne concentrations, resulted in safe discharge of the cargo.

Fibreglass and Styrene

A survey of the fibreglass laminating industry in the Sydney area was conducted, completing work commenced in 1963. Medical and pathological examinations of personnel exposed to fibreglass dust and styrene monomer were correlated with environmental assessments of the exposures. No significant hazard to health was detected.

D.D.V.P. and Malathion Spraying of Wheat

The spraying of wheat for export with D.D.V.P. in Sydney and of country wheat storage areas with D.D.V.P. and malathion were investigated to determine the exposure level of personnel involved. Safe working procedures were found in all cases.

Timber Preservation

The use of copper chrome arsenate for pressure and dip preservation of timber, and the subsequent cutting, planing, sanding, etc., of the finished timber, was investigated. Airborne levels of the materials used for treatment were at satisfactory levels from an occupational health viewpoint.

Air Tests During the Operation of an Automatic X-ray Film Developer

Because of complaint of irritating and offensive effluent resulting from the operation of a commercial automatic X-ray film developer, its use was inspected and the atmosphere monitored. This unit was positioned in a poorly ventilated area. It was fitted with an inbuilt exhaust ventilation unit, theoretically drawing at the rate of 75 cubic feet per minute and discharging to the outside air. However, this could not be evaluated. Concentrations of up to 2.5 parts per million of sulphur dioxide and 1.5 parts per million of acetic acid were found, these being below the suggested threshold limits of 5 and 10 parts per million respectively. The combination of these exposures was considered a definite nuisance and additional ventilation was suggested where such machines were to be installed.

Asbestos Spraying

The spraying of a simulated ship's bulkhead with a mixture of asbestos cement and rock/slag wool was investigated. Dried materials were pre-mixed and fed to a hand held gun with a concentric water jet. Tests of the breathing zone of the sprayer showed up to 250 million particles of asbestos/cubic ft of air. With an accepted standard of 5 million particles per cubic ft of air the operation was found to be hazardous to health. Assistants standing some distance away were also exposed to lesser, but still hazardous, amounts of asbestos. The operator wore a disposable paper mask of a type not effective in dust protection and his assistants wore no respiratory protection whatsoever.

Training of Overseas Personnel

Training in Industrial Hygiene was conducted for a number of overseas visitors, the periods varying from 2 to 9 weeks. Two visitors were from Taiwan, one from Singapore, and one from Ghana. A number of other visitors from Nigeria, Ceylon, and India attended the division for shorter periods of time to study its activities.

Investigation for Police Department

At the request of the Police Department tests were made on a suitcase in which a child had been found dead, the lid of the case allegedly having fallen shut accidentally. Tests using gases, guinea pigs, and an adult human subject indicated strongly that the air movement in and out of the gaps between the lid and body of the case provided a sufficient oxygen supply to prevent asphyxia. Difficulties in interpreting the test results and correlating findings with conditions likely to have prevailed when a 13-months child was shut in the case were encountered; these were due mainly to the lack of available scientific data on the ventilatory capacities and breathing rates of very young children.

Personal Protective Equipment Laboratory

Mr J. G. HUGHES

Items tested	No. of units	Number conforming to standard
Respirators	57	41
Respirator filters, etc. .. .	253	174
Sets of safety helmets .. .	55	38
Eye protectors .. .	48	38
Skin cleaners, soaps, etc. .. .	15	..

Items of Interest

Eye Protection

An airgun capable of projecting a $\frac{1}{4}$ -inch diameter steel ball at measured velocities between 20 and 1,000 feet per second was built in the division's workshop. Apart from testing eye protectors to Australian and British Standards, research into the properties of lenses, lens mountings, and design has commenced.

Industrial P.V.C. Gloves

A flex testing machine has been designed and constructed in the division's workshop. The machine flexes specimens of glove material at 500 times/minute up to a total of 800,000 cycles per test.

Industrial Safety Helmets

At the request of the Australian Standards Association a visit was made to the Electrical Trust of South Australia Testing Laboratory to investigate apparent failures of safety helmets approved by S.A.A. and tested satisfactorily at the division. No definite reason for the alleged failure of approved helmets could be found but ten helmets tested under supervision all passed the shock absorption test using the identical equipment and the same make and batch of helmets as used previously.

Agricultural Health

Mr G. R. SIMPSON

Since the end of the drought, requests to determine blood cholinesterase activity of orchardists and market gardeners, using organic phosphate pesticides, has greatly increased. Over 500 tests were carried out at Orange, Bathurst, Batlow, Bilpin, Leeton, Griffith, Maitland, and Windsor.

Most results were normal, indicating that protective clothing was worn whilst spraying and that, generally the attitude towards safety had greatly improved.

Two serious Mevinphos poisonings occurred due to accidental hose bursts on spray outfits.

A survey of the mushroom growing industry disclosed many potential hazards due to the use of toxic insecticides and fungicides. A pamphlet to aid growers was produced and distributed through the Mushroom Growers Association. A similar pamphlet for the Greenkeepers Association was produced and distributed.

Plasma Cholinesterase Testing for Hospitals

Plasma cholinesterase testing was carried out where patients had suffered "scoline apnoea". This led to the evaluation of a commercial testing kit. Satisfactory and consistent results indicated that it could be used to advantage in hospitals.

Cotton Industry

The cotton seed processing industry has expanded making it necessary to conduct further cotton dust in air tests in new plants. Pulmonary function tests were carried out on a number of operators; the results indicated a definite loss of function associated with cotton dust exposure in excess of the recommended maximum allowable concentration. There is thus the possibility of eventual onset of byssinosis in operators, unless effective control of cotton dust exposure is achieved in this new industry.

Dichlorvos Usage

The increased usage of dichlorvos in public institutions, such as hospitals for fly control has been investigated to assess exposures. All tests carried out to date have indicated exposures to be at acceptable levels. However, there was some evidence of careless handling and application. More adequate supervision of the use of the material, including cholinesterase evaluation of operators, and a better awareness of the potential hazard to operators during application are considered essential.

Poisonings from Use of Endrin in Bakehouses

Five members of one family were admitted to hospital suffering from convulsions in one day; almost simultaneously two members of a second family were admitted to another hospital, also with convulsions. Both families had eaten bread from one bakehouse. As convulsions are usually the main presenting symptom in severe organic chlorine poisoning, an investigation of the bakehouse was carried out and it was found that endrin was used in trays along the rafters of the bakehouse to kill birds. Due to over filling, endrin solution from the trays had dropped onto loaves of bread. Several other bakehouses were inspected and further spillages discovered.

Exhibits at Trade Fairs

Exhibits at the Albury and Armidale Trade Fairs stimulated many inquiries concerning public health suggesting that this method of publicising the overall activities of the Department might be developed to advantage. However, the exhibits were not especially useful in promoting Occupational Health. On the other hand, the Orchard Field Day was valuable to orchardists; exhibits on agricultural health, noise and protective clothing, and respirators were featured.

Noise: Industrial and Community

MR H. R. WESTON

Industrial Noise

The risk of occupational noise-induced hearing impairment is widespread. In some heavy industries reduction of noise to a suitable level often presents difficulties and is currently not practical. Unfortunately, personal ear protection is not always readily accepted by all employees; some managements are not yet fully motivated as to their role in educating and training their employees. However, follow up of noise investigations has shown that in many cases, when properly introduced by management, there has been good acceptance of ear protection. An encouraging, and increasing number of inquiries has been received from unions.

There is also evidence that some industries are making a systematic approach to conservation of hearing particularly in regard to prevention. Specifications of desirable noise levels, and requests for information relating to levels of new equipment under operating conditions when calling tenders, has created considerable awareness, and incentive, among suppliers, particularly of heavy equipment.

Although there have been difficulties to overcome, acoustic enclosures have been applied satisfactorily to high speed metal cutting and wood machining.

Considerable variation in the noise levels from various types of circular saw blades indicates the need for research into their design.

Investigations of some country timber mills indicated the presence of noise hazards and an increasing interest by managements in this problem.

Measurements of some ultrasonic cleaning units showed that while a high level noise with annoying characteristics may occur, and which may approach the hearing conservation level, in many cases the noise in the audible range was not significant. The position must be kept under review.

An increasing number of noise inquiries are being received from primary industry.

Community Noise

Several complaints of noise originating from bakeries have been investigated; due attention must be given to noise and acoustic design when installing new equipment.

Low frequency noise from many industrial sources, such as vibrating feeders, oil-burners, exhaust systems which are not easily attenuated by walls, have also been a common cause of complaint.

Observations have been made of vehicular traffic noise in relation to hospitals, schools, and community areas. There is some evidence that such noises have increased and are now a major community irritant to many people. In general such noises result from unsuitable mufflers, unnecessary engine revving, tyre squeal, and horn blowing.

Certain factors make it difficult to use objective methods of assessment on random moving vehicles. However, methods could be used to determine the suitability of mufflers prior to approval for registration. There appears to be need for greater enforcement of existing legislation.

Ergonomics

R. WELCH, J. ALLEN, and K. BETTS

Ergonomics activities comprised education, surveys, and advice on ad hoc problems. A start was made on an industrial mental health programme.

(a) Education

In addition to giving many lectures, the Group conducted five courses for industrial audiences. These ranged in length from 1 full day to 6 half-days and included most aspects of the work in the Ergonomics field.

(b) Surveys

(i) *Physical Fitness of School Boys*.—The purpose of this longitudinal study is to determine whether results of bicycle ergometer tests carried out on boys can be used to predict their fitness as adults. In the third year of this study, 133 boys aged 14 were each tested three times. The correlation between fitness at ages 12 and 14 years was 0.77.

(ii) *Endurance of Mines Rescue Personnel*.—Studies continued at Bellambi Mines Rescue Station to determine the endurance of men engaged on simulated rescue work under various conditions of temperature and humidity and wearing various types of self-contained breathing apparatus.

The tests seem to indicate there is greater variation between the subjects than between the different types of self-contained breathing equipment.

(iii) *Tenosynovitis*.—Investigations continued to establish the causes of this serious industrial problem. It is becoming apparent that bad equipment design and working methods are largely to blame and can be corrected.

In about one-third of the cases investigated the main cause was unnecessary effort or muscular force, indicating a lack of training methods and supervision.

(iv) *Colour Coding*.—Recommendations were made to the Standard Association of Australia and published as a journal article (*Factory and Plant*, vol. 6, no. 3, 1968). The present industrial situation is unsatisfactory, confusing and dangerous.

(v) *Ad Hoc Problems*.—Management and unions continued to consult the division on ergonomics problems, some of which had caused strikes. The most common problems were workplace layout, design of hand-tools and machine-controls, heat (especially radiant heat) and ventilation, design of seats and benches, visual work including lighting, and psychological problems.

(vi) *Industrial Mental Health*.—The mental health of people in industry must be considered as important as their physical health; accordingly such a programme is needed to supplement the medical and scientific activities of the division.

As a necessary preliminary to a primary preventive programme it was necessary to identify those work factors which beneficially or adversely affect mental health. These are mainly dependent on personnel selection, training, communications, and management style.

The Industrial Sister is considered to be the most suitable person to implement secondary prevention. As reported elsewhere, a 13 x 2-hours course in counselling-interviewing was conducted for about 30 Sisters in conjunction with the Gladesville Hospital Preventive Committee.

Human Kinetics

The demonstrations and lectures to all levels of industrial personnel on methods of manual handling techniques with a view to prevention of muscular injury were continued with considerable success.

Specific investigations of notified back injury lost time accidents, resulted in the introduction of a number of mechanical lifting and moving devices such as hoists, trolleys and fork lift trucks. Comment was made by several firms as to the increased efficiency resulting from these investigations.

Courses were also given to hospital nurses to teach them how to lift patients without injuring themselves. Manual handling by disabled workers also received some attention and training was given to occupational therapy staff and students.

Surveys were carried out of certain machinery aspects of the timber industry and modification of use of chain saws recommended to ease weight supported by the worker.

Hospital Survey

The survey of the frequency and types of injuries experienced in State hospitals has been continued. Some committees have been formed to gather accident statistics in their own location and to hold monthly meetings to discuss prevention. Some of these meetings were attended by the division and follow up inspections made on prevention aspects put forward through these committees. With the appointment of a Safety Officer early in 1969, to the Division of Occupational Health it is anticipated that such activities will be significantly increased.

RADIATION BRANCH

Officer-in-Charge: H. M. WHAITE

As in previous years, the branch has primarily been concerned with routine inspections of premises where radioactive substances or irradiating apparatus are being used, and with investigations concerning the granting or variation of licenses under the Radioactive Substances Act.

Licences Under the Radioactive Substances Act

Applications are investigated and reported on by the branch, and referred to the Radiological Advisory Council for consideration. If satisfied, the Council recommends to the Under Secretary the granting of a licence.

Licences under the Act fall into two categories, namely, to possess, use or sell radioactive substances, and to possess or use irradiating apparatus. In the following table, these have been designated by "R" and "X" respectively.

LICENSES ISSUED UNDER THE RADIOACTIVE SUBSTANCES ACT, DURING 1968

License category					X-Ray or Radioisotope	Licenses at 31-12-67	New licenses issued during 1967	Lapse of licenses during 1967	Licenses at 31-12-68	Approximate percentage change over year
Medical					X	357	21	15	363	per cent + 2
Hospital (medical and scientific)					R	74	5	7	72	— 3
					X	183	22	6	199	+ 9
Dental					R	86	9	6	89	+ 3
Veterinary					X	1,060	45	29	1,076	+ 2
					X	77	17	6	88	+ 14
Chiropractic					R	4	1	1	4	0
Scientific—General (including industry)					X	51	15	8	58	+ 14
					X	49	17	13	53	+ 8
Industrial					R	137	33	32	138	+ 1
					X	62	39	1	100	+ 61
Commercial					R	124	48	10	162	+ 31
					R	20	7	0	27	+ 35
Totals					X	1,839	176	78	1,937	+ 5
					R	445	103	56	492	+ 11
Grand total ..					X + R	2,284	279	134	2,429	+ 8

The net percentage increase per annum is similar to last year, and represents a doubling of the number of licenses about every 9 years.

Field Inspections

The annual number of field inspections showed a 5 per cent increase, which is the order of what would be expected from the net increase in licences (8 per cent).

FIELD INSPECTIONS CARRIED OUT DURING 1968

Category						X-ray or Radioisotope	Number of inspections		Category total	
							License	Non-license	1967	1968
Medical						X	10	104	151	125
						R	5	6		
Hospital						X	2	150	114	157
						R	1	4		
Dental						X	24	577	544	601
Veterinary						X	9	41	45	50
						R	0	0		
Chiropractic						X	18	29	30	47
Scientific and research						X	8	10	65	76
						R	21	37		
Industrial						X	6	21	198	150
						R	33	90		
Commercial						X	3	6	9	9
						R	0	0		
Transport						R	0	1	2	1
Totals						X	80	938	921	1,018
						R	60	138	237	198
Grand Total						X + R	140	1,076	1,158	1,216

Visits to Country Districts

An attempt is being made to rearrange visits to the country areas of New South Wales in order to achieve the maximum coverage practicable with the minimum of long trips. In the following table the visits made in 1968 have been classified according to this Department's Health Districts. Each "visit" could cover from one to twenty separate inspections.

VISITS TO HEALTH DISTRICTS (OTHER THAN SYDNEY AND SUBURBS)

Health district									Number of visits
Metropolitan (excluding Sydney and suburbs)									13
Newcastle	..	..	..	..	..	..	..	..	9
North Coast	..	..	..	..	..	..	..	..	2
South Coast	..	..	..	..	..	..	..	..	8
Western	..	..	..	..	..	..	..	..	5
North-Western	..	..	..	..	..	..	..	..	5
Riverina	..	..	..	..	..	..	..	..	5
Broken Hill	..	..	..	..	..	..	..	..	0
Total									47

The most substantial increases have occurred in the metropolitan area to the west of Sydney and suburbs, and in the North-Western Health District.

Film Badge Service

In last year's Annual Report, details were given of a "rationalization" scheme whereby those organizations with personnel showing less than 30 per cent of the maximum permissible dosage were in a large number of cases removed from the service. Despite the application of this principle, the service continues to expand, and the number of individuals covered has increased by 13½ per cent; the most significant increase has occurred in the scientific and research category where the number of individuals being filmbadged has more than doubled.

FILM BADGE SERVICE—DISTRIBUTION AMONGST OCCUPATIONAL CATEGORIES IN 1967 AND 1968

Category				Number of organizations		Number of persons		Persons per organization	
				1967	1968	1967	1968	1967	1968
Medical	..	..	..	148	157	372	392	2.5	2.5
Hospital	..	..	..	197	205	879	910	4.5	4.4
Dental	..	..	..	390	415	1,051	1,112	2.7	2.7
Veterinary	..	..	..	40	53	111	141	2.8	2.7
Chiropractic	..	..	..	36	47	49	64	1.4	1.4
Scientific and research	..	..	..	48	63	139	338	2.9	5.4
Industrial	..	..	..	64	82	341	385	5.5	4.7
Transport	..	..	..	0	0	0	0	..	..
Total				923	1,022	2,942	3,342	3.2	3.3
% Increase over year ..					10.7%		13.5%		

Finger Film Badges

As a project, some twenty persons from six organizations are wearing finger-film badges. Half are working with radium for gynaecological purposes, six are engaged in milking isotope generators and the remainder in scientific research work.

The results to date have shown that dosages to the fingers from these procedures have rarely reached 5 per cent of the maximum permitted, and none has reached 10 per cent.

The annual dosages received by industrial radiographers have shown virtually no change in distribution.

ANNUAL DOSAGE DISTRIBUTION AMONGST INDUSTRIAL RADIOGRAPHERS, 1967 AND 1968

Year	Dosage (rems)			0—1	1—2	2—3	3—4	4—5	Over 5	Total
1967	No. of persons ..	..	..	73	9	1	4	1	1	89
	Per cent of total ..	..	..	82%	10%	1%	5%	1%	1%	100%
1968	No. of persons ..	..	..	93	11	4	3	1	0	112
	Per cent of total ..	..	..	83%	10%	4%	2%	1%	..	100%

Field Tracer Tests

A number of tracer tests were carried out during the year, mostly at one of the larger chemical firms. They include the following:

- (1) Use of sodium-24 labelled sodium carbonate to measure water leakage in the cooler system of a blast furnace.
- (2) Use of sodium-24 labelled sodium carbonate to determine the volume of a receiver.
- (3) Use of gold-198, mercury-197, and mercury-203 to determine mercury volumes for audit purposes.

An officer from this branch was present at some of these tests, and all tests witnessed were carried out with minimal exposure of the persons.

Increase in Industrial Radiography

The use of radioisotopes and X-rays for industrial radiography has increased to the stage where there are now twenty-three organizations active in this field. They employ sixty licensed radiographers, with a number of other persons working under their direction and supervision.

The trend to remote handling gear for radioisotopes has continued, and the use of handling rods and unshielded sources has virtually ceased. The benefit of the former is reflected by the absence of any individual dose exceeding 5 rem during the year.

A series of seven 2-day *training courses* in safety for industrial radiographers was conducted by the branch as a prerequisite to the issue of licences for this type of work. Thirty-three applicants successfully completed this course, which comprises a series of lectures covering such aspects as basic physics, instrumentation, shielding, biological effects and safe working practices. In addition, practical experience was gained in the calibration and use of field monitoring instruments.

Local Liaison Exercise at A.A.E.C. Research Establishment, Lucas Heights

After months on careful planning, this exercise was carried out during March. An incident involving release of radioactivity from a building with resulting injury of an employee, and contamination of ground areas both inside and outside the site, was simulated, using the very short-lived manganese-56. Apart from Atomic Energy Commission personnel, participants included members of the N.S.W. and Commonwealth Police, and of the N.S.W. Fire Brigade. The exercise was very successful, though some difficulties were experienced in regard to communications and the use of aerial maps. Decontamination and other radiological health aspects were carried out satisfactorily.

An officer of the branch attended the meetings planning the exercise, and was present during it as an observer.

Inspections of Luminising Establishments

A code of practice of the safe use of radioactive luminous compounds is being prepared by a sub-committee at the Radiation Health (Standing) Committee of the National Health and Medical Research Council. During May, the branch arranged for joint inspections of the three luminising establishments operating in Sydney, in order that the sub-committee might widen its observations on these matters. Particular attention was paid to the avoidance of a conflict between the proposed code and the existing legislation under the N.S.W. Factories, Shops and Industries Act.

The Problem of Radioactive Substances in Fire Fighting

Despite their increasing use, to date no radioisotopes have been involved in serious fires. However, a committee has been set up under the auspices of this Department, which includes representatives from the Australian Atomic Energy Commission, the Civil Defence Organisation, and the N.S.W. Board of Fire Commissioners. Its purpose is to develop a satisfactory system of identification of buildings containing radioactive substances, so that buildings not needing identification will not constitute a hazard.

A sub-committee has formulated various working models, and from them has decided that the main hazard will arise from inhalation of airborne material. Three categories of risk to firemen have been defined, and it is proposed to catalogue establishments storing radioisotopes according to these categories.

Microwave Heating

A brief survey has been made of the various types of microwave cooking ovens being offered for sale in New South Wales. At the time, their usage was confined to public eating places where they were being used for heating precooked food.

Interpretation of the results has proved difficult and will require closer consideration. However, it appears that the health hazard is minimal, or even negligible.

AIR POLLUTION CONTROL BRANCH

Principal Air Pollution Control Engineer: Mr R. P. MURPHY

The branch continued its main function of implementing the Clean Air Act; the stage has been reached where officers are now directing their efforts more towards the less visible, but none-the-less objectionable, forms of pollution. The increasing awareness of the public to pollution, the increasing number of requests from Local Government Authorities for assistance and the greater extent of air pollution monitoring have also influenced the activities of the branch during the year.

Implementation of the Clean Air Act by a policy of persuasion and co-operation has been maintained but the approach has become progressively sterner with those companies which have been tardy in their efforts to solve their emission problems. Where lengthy negotiations have been fruitless, directions have been issued to install control equipment.

Much of the development that has occurred in the control of emissions from various industries was described in the report of the Air Pollution Advisory Committee which was tabled in Parliament in October, 1968. Therefore, only a brief summary of the position concerning air pollution in New South Wales will be given in this present report.

Emissions from Motor Vehicles

An Interdepartmental Committee which had been set up to report on the emissions from petrol-and-diesel-powered motor vehicles completed its investigations and submitted, in August, a report to the Ministers for Health and Transport. A number of recommendations were made concerning control action necessary to reduce emissions; however, there was not unanimous agreement on all matters and the points of disagreement are at present being considered by the Ministers concerned.

The committee was advised of the results of a survey carried out by the Air Pollution Control Branch which showed that, although a photochemical smog problem does not exist in New South Wales' cities at this time, concentrations of carbon monoxide in city streets do reach significant levels. Although there is no medical evidence to show that values recorded present a health hazard to the physically fit adult population, they are sufficiently high to warrant a detailed investigation into control methods. Officers of the branch are continuing their investigations with particular reference to the control of carbon monoxide emissions by carburettor adjustment and the measurement of carbon monoxide exposure levels inside motor vehicles.

A staff member was recently awarded a Public Service Post-Graduate Fellowship at the University of New South Wales and is enrolled for a Ph.D degree. His research topic will be concerned with an aspect of the control of emissions from motor vehicles.

Senate Select Committee

The Senate Select Committee on Air Pollution requested a submission from the Department on the overall situation in New South Wales; this was presented in July.

Clean Air Conference

The Department has promised financial support, to the extent of \$5,000, to the third Clean Air Conference to be held at the University of New South Wales in May, 1969. The Conference will be sponsored jointly by the Department, the University of New South Wales and the Clean Air Society of Australia and New Zealand.

Air Pollution Monitoring

The results for dust deposition over the past year are given in table 1. A comparison with the results for 1967 shows that the downward trend in dust deposition has continued in Sydney and Newcastle; the decreases, 11 per cent and 8 per cent respectively, are the direct result of the installation of dust control measures in numerous industries. In Wollongong there was an increase of 16 per cent in the annual average values which have returned to their 1966 levels. This increase may be partly accounted for by the high frequency of strong southerly winds which occurred during the first 3 months of the year thereby causing entrainment of excessively large amounts of dust from coal, ore and slag stockpiles. Deposit gauge readings in Wollongong are influenced by such wind-blown dust to a greater extent than in Sydney or Newcastle. Severe bushfires in the Wollongong area in the period from August to November also increased the dust fall.

Smoke haze in the Sydney atmosphere increased during the year, both on annual average and peak value bases. A maximum hourly value of 8.0 haze units was recorded in Sydney in April and this was the highest recording made since June, 1965, when the maximum value was 8.6 haze units. However, in 1960, a peak value of 14.8 haze units occurred and severe smoke haze was recorded on 59 days compared with 14 in 1968. In 1968, the onset of stable, calm conditions necessary for haze formation occurred in April which is earlier than usual; this influenced annual average values adversely. Furthermore, bushfires were a factor in the increased smoke haze values for 1968.

Smoke haze is now measured at 14 sites in Sydney, 3 in Newcastle, and 1 in Lithgow. At 7 of the Sydney sites, paper tape samplers are installed which record on a one- or two-hourly basis. The results are summarized in tables 2 and 3.

Sulphur dioxide concentrations in the atmosphere of Sydney and Newcastle taken on 24-hour samples and expressed on an "average daily" and "highest day" basis each month are shown in table 4. In addition, sulphur dioxide was also recorded on continuous monitors located near to large sources and at four of the division's new monitoring stations. Comparison of the results with previous years shows that an upward trend in sulphur dioxide concentrations has occurred in all the areas monitored except Redfern and Paddington. This trend gives rise for some concern as it reflects the increased use of fuels containing a higher concentration of sulphur. It has been suggested that there will be a substantial increase in the sulphur content of fuel oil consumed in New South Wales during 1969 and 1970 and this, if it is allowed to occur, could be expected to increase sulphur dioxide concentrations further. In view of the discovery of low sulphur oil and natural gas in Australia the increasing use of imported high sulphur oils is to be deprecated.

Five permanent monitoring stations were established during the year, four at departmental hospitals and one at the State Office Building. Smoke haze, dust fall, and sulphur dioxide measurements are now made on a routine basis. Monitoring of oxidants was continued throughout the year and the results again showed that concentrations were insignificant. Concentrations of suspended particulate matter, and lead, copper, and iron were also determined in atmospheric samples obtained at the monitoring stations. Preliminary results are shown in table 5. The analysis of suspended solid particles will be extended to additional metals in 1969.

Stack Testing

The programme of testing of emissions from industrial premises continued throughout the year; 122 particulate tests and 178 chemical tests were carried out at a total of 99 different premises. A number of testing procedures were refined which enabled more analyses to be carried out at the factory site.

Incinerator Standards

There has been increasing awareness by the public and local government authorities of problems caused by emissions from domestic and industrial incinerators. Numerous tests carried out on a variety of installations have shown that many existing incinerators do not comply with the requirements of the Clean Air Act. Because of this a committee was formed by the Department to prepare a series of design standards for incinerators. The aim of these standards is to provide guide lines to local government authorities in considering plans and specifications for new installations. They will initially cover incinerators used in connection with commercial and industrial premises and multiple family dwellings. It is intended to extend the standards to cover pathogenic waste incinerators and single family backyard incinerators at a later stage.

TABLE 1—DUST DEPOSITION
(Monthly Tons/Sq. Mile/Month—Insoluble Solids)

Site	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Sydney—												
Central Railway ..	21.6	25.0	..	..	9.1	8.7	9.3	9.9	12.1	12.3	14.8	16.3
Darlington ..	10.8	14.5	11.2	15.5	..	7.1	7.8	6.2	4.0	6.6	11.3	9.9
George Street North..	8.5	13.9	12.1	8.4	11.8	10.0	13.5	..	..	10.3	12.0	8.2
Martin Place ..	9.3	13.1	14.6	13.5	16.0	16.3	17.0	15.4	19.0	17.4	23.1	8.5
Paddington ..	6.7	9.7	9.9	13.2	8.2	6.6	7.0	7.3	10.2	5.2	11.2	6.0
Potts Point ..	8.2	11.4	11.6	9.7	12.3	10.8	12.6	9.2	11.5	11.1	15.2	10.9
Pymont ..	12.0	39.4	16.2	19.1	20.0	13.0	17.4	12.5	14.7	19.9	23.3	13.2
Redfern ..	12.4	17.6	10.1	..	..	..	8.8	..	..	11.6	..	9.2
Rozelle ..	16.2	14.2	11.9	10.0	12.6	6.9	8.5	6.8	17.8	19.4	22.6	19.3
Double Bay ..	2.7	4.2	5.6	3.7	7.3	5.9	10.3	13.7	51.9	23.4	11.1	11.4
Newcastle—												
City Hall ..	9.3	16.6	18.0	21.4	17.3	11.0	15.9	10.3	9.1	13.0	12.2	18.8
Stockton ..	22.9	10.1	19.6	16.1	23.1	26.4	25.5	16.0	12.8	22.8	21.6	24.4
Tighes Hill ..	36.4	31.9	39.6	45.0	25.6	14.0	14.4	20.8	23.7	25.0	26.0	26.2
Broadmeadow ..	..	16.7	10.7	10.6	15.7	14.8	8.9	5.9	6.7	20.8	14.1	13.8
Kotara ..	7.4	16.1	12.7	9.7	11.3	8.6	10.4	6.2	6.2	8.0	10.0	14.8
Wollongong—												
Jubilee Street, Port												
Kembla ..	23.2	13.0	50.7	25.2	..	14.1	..	29.8	31.8	38.7	..	64.2
Wentworth Street, Port												
Kembla ..	25.8	12.1	37.2	21.5	27.9	16.2	19.6	23.1	27.2	21.5	35.0	25.6
Military Road, Port												
Kembla ..	34.3	29.7	89.1	..	..	22.2	15.2	4.9	36.9	35.6	35.0	41.9
Monteith Street,												
Cringila ..	23.8	25.1	62.6	27.7	10.3	10.8	13.5	14.3	30.6	35.0	46.5	35.3
Sheffield Street,												
Cringila ..	15.1	9.4	21.6	15.5	16.7	13.1	12.6	19.6	17.7	23.6	21.0	13.6
Warrawong ..	20.1	28.9	29.5	26.0	13.2	12.9	14.1	23.6	22.7	29.7	63.1	18.8
Lake Heights ..	22.5	50.8	..	18.8	14.7	12.7	16.2	14.9	18.6	31.1	..	27.0

TABLE 2—SMOKE MONITOR RESULTS—1968

Monthly Smoke Densities
(Coh Units per 1,000 lin ft)

Site		Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly average
George Street North, Sydney	Av. H.D.	0.7 1.8	0.8 1.5	1.2 2.8	1.9 5.1	0.9 2.3	1.2 2.4	1.0 3.2	1.1 2.3	1.0 2.5	1.1 2.8	0.8 2.4	0.6 1.6	1.0 ..
Ermington RAN Stores	Av. H.D.	0.2 0.4	0.2 0.3	0.2 0.5	0.9 1.8	0.8 1.7	0.9 1.8	1.1 1.9	0.6 1.7	0.6 1.4	0.4 1.4	0.5 1.8	0.3 0.9	0.6 ..
Rydalmere Monitor Station	Av. H.D.	0.8 1.4	.. ..	0.8 1.7	0.8 1.5	0.6 1.4	0.5 1.4	0.7 1.3	0.5 1.3	0.5 1.3	0.5 1.4	0.6 1.9	0.3 0.9	0.6 ..
Callan Park Monitor Station	Av. H.D.	0.3 1.0	0.3 0.6	0.2 0.6	1.1 1.8	0.6 1.3	0.0 0.0	0.3 1.9	0.8 2.4	0.8 1.8	0.6 1.9	0.7 2.3	0.4 1.4	0.6 ..
Prince Henry Hospital Monitor Station.	Av. H.D.	.. ..	.. ..	.. ..	0.7 1.7	0.5 1.8	0.0 0.0	0.9 2.6	0.7 1.9	0.8 1.8	0.6 1.9	0.4 1.6	0.3 0.7	0.6 ..
Prince of Wales Hospital Monitor Station.	Av. H.D.	0.3 0.9	0.2 0.9	0.4 1.2	0.9 1.8	0.9 1.9	0.9 2.5	1.1 2.9	0.6 2.0	0.7 1.5	0.4 1.5	0.5 1.4	0.2 0.6	0.6 ..
State Office Block Monitor Station	Av. H.D.	.. ..	0.4 0.9	0.5 1.3	0.5 1.6	0.7 1.5	1.0 2.3	1.0 3.2	0.7 1.8	0.7 1.2	0.5 1.5	0.6 1.3	0.5 1.2	0.7 ..
Lithgow	Av. H.D.	0.8 1.8	0.8 1.5	1.2 2.8	1.9 5.1	0.9 2.3	1.2 2.4	1.0 3.2	1.1 2.3	1.0 2.5	1.2 2.8	0.8 2.1	0.6 1.6	1.0 ..

TABLE 3—MONTHLY SMOKE DENSITIES
(a) *Sydney and Suburbs—1968*
(Coh Units per 1,000 lin ft)

Site		Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly average
Sydney Town Hall ..	Av.	1.4	1.1	1.8	2.3	2.0	2.5	2.3	1.6	1.5	1.6	1.2	1.1	1.7
	H.D.	3.2	2.0	3.7	4.6	3.9	5.0	5.8	3.6	2.6	5.6	3.3	2.9	..
Redfern Town Hall ..	Av.	0.6	0.7	1.4	2.0	2.0	2.1	2.3	1.4	1.7	1.0	1.3	0.7	1.4
	H.D.	1.2	1.4	2.6	4.0	2.7	3.5	3.2	3.8	2.5	2.3	2.6	2.0	..
Paddington Town Hall ..	Av.	4.7	5.9	4.9	4.7	2.9	2.6	0.3	0.9	1.0	1.0	0.6	0.5	2.5
	H.D.	10.3	12.8	12.8	9.2	5.2	4.0	2.3	1.6	2.4	1.7	1.6	2.0	..
Prince Albert Park ..	Av.	..	..	..	..	..	..	1.7	1.3	1.2	1.1	0.8	0.7	(1.1)
	H.D.	..	..	..	..	..	..	3.8	2.4	1.7	2.5	1.8	1.7	..
North Sydney Council ..	Av.	0.4	0.5	1.0	1.3	1.5	1.7	0.7	0.6	0.0	0.3	0.1	0.1	0.7
	H.D.	1.0	1.6	2.2	2.1	3.9	3.6	2.2	1.7	0.4	1.2	0.6	0.6	..
Balmain Town Hall ..	Av.	..	..	..	..	1.3	1.5	1.3	1.0	0.8	0.7	0.8	0.7	1.0
	H.D.	..	..	..	..	2.1	2.9	2.2	2.3	1.9	1.4	1.8	1.2	..
Botany Municipal Council ..	Av.	..	0.3	0.5	..	1.0	1.5	1.4	0.8	1.2	0.5	0.5	..	0.9
	H.D.	..	0.6	1.2	..	2.0	2.9	2.8	1.4	2.7	1.6	1.0	..	..

(b) *Newcastle*

City Hall Newcastle ..	Av.	0.6	0.8	0.7	1.5	1.9	1.5	2.3	1.5	1.4	1.3	0.8	0.1	1.2
	H.D.	2.3	3.4	2.0	2.6	4.8	4.0	4.8	4.2	3.0	3.5	1.7	0.4	..
Bolton Street, Newcastle ..	Av.	0.5	0.3	0.6	1.4	1.7	1.6	2.4	1.9	1.6	1.3	1.8	0.8	1.3
	H.D.	1.4	0.6	1.6	2.4	3.0	4.2	4.0	5.0	4.4	3.6	4.3	3.9	..
Mayfield East, Newcastle ..	Av.	1.0	1.4	1.8	1.7	1.2	1.6	1.8	1.0	1.6	1.5	1.8	1.5	1.5
	H.D.	3.3	3.0	4.8	3.9	2.6	3.6	4.4	2.8	5.0	3.2	4.2	3.0	..

TABLE 4—SULPHUR DIOXIDE CONCENTRATIONS
Sydney and Newcastle—1968
 PPHM

Site		Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly average
Sydney Town Hall ..	..	3.9 8.9	4.4 11.5	4.8 11.6	5.2 7.3	3.1 5.2	4.0 5.5	4.2 7.6	3.1 4.0	4.3 7.6	4.4 6.4	3.4 5.1	3.1 6.0	4.0 ..
Redfern Town Hall ..	..	7.7 15.4	5.7 11.2	3.6 6.3	4.5 6.8	3.5 4.6	3.5 5.6	3.1 5.3	3.1 3.9	3.8 6.6	3.8 7.6	4.7 6.0	3.9 5.6	4.2 ..
Paddington Town Hall ..	..	0.5 1.1	0.5 1.0	0.7 1.4	1.0 2.5	1.5 2.5	1.1 1.8	2.7 4.0	3.2 5.1	3.3 4.9	4.6 12.7	4.5 8.4	5.2 11.6	2.4 ..
Prince Albert Park ..	..	..	..	..	..	..	..	2.6 4.4	2.2 3.8	2.6 3.6	1.9 3.3	1.6 2.8	1.8 3.0	(2.1) ..
North Sydney Council ..	..	0.9 1.2	1.2 1.9	1.6 3.7	2.0 3.9	1.8 5.9	2.6 4.5	3.4 7.3	2.0 3.7	0.6 1.5	1.0 4.9	1.7 2.8	0.1 0.1	1.6 ..
Botany Municipal Council ..	..	..	0.6 0.9	1.1 3.2	..	1.7 3.5	2.2 3.8	2.0 3.4	2.1 3.7	2.0 3.1	1.1 2.0	1.0 2.1	..	1.5 ..
City Hall, Newcastle ..	..	0.3 1.7	0.6 1.5	0.2 1.6	1.2 1.8	1.9 4.3	1.5 2.3	1.7 4.2	2.2 3.8	2.9 4.3	1.9 3.2	1.8 3.2	1.1 1.9	1.4 ..
Bolton Street, Newcastle ..	..	1.2 2.6	0.8 1.9	1.2 3.9	1.1 2.2	1.8 3.7	2.5 4.3	2.4 4.3	3.2 6.2	5.7 7.9	4.3 8.6	1.2 2.1	0.7 1.6	2.2 ..
Mayfield East, Newcastle ..	..	1.3 2.5	1.2 3.6	1.1 3.2	0.8 1.6	1.1 2.5	1.7 4.2	1.3 2.5	1.8 3.2	2.4 5.6	1.7 3.2	1.7 3.6	1.3 2.4	1.5 ..

Legenda: Av. Average of daily (24 hour) readings.
 H.D. Highest Day.

TABLE 5—CONCENTRATIONS OF SUSPENDED PARTICULATE MATTER IN ATMOSPHERIC SAMPLES
(Micrograms/in³)

	Lead	Copper	Iron
Rydalmere Hospital	0·49	0·24	0·89
Callan Park Hospital	0·55	0·19	0·71
Prince of Wales Hospital	0·90	0·35	0·78
Prince Henry Hospital	0·47	0·25	0·76

The Institute of Clinical Pathology and Medical Research

Director: Dr H. KRAMER

Location: Joseph Street, Lidcombe

Established in 1959, the Institute of Clinical Pathology and Medical Research provides a comprehensive Clinical Pathology service for the whole of the State of New South Wales available free of charge to all Public and State Hospitals and to medical practitioners attending patients unable to afford the fees of a private pathologist. Specimens for investigations not otherwise available in the State are accepted without financial restriction, while the Exfoliative Cytology, Venereal Disease Serology and Virology departments also provide a free service which is generally available. The institute also undertakes the training of medical technologists and doctors wishing to specialize in Clinical Pathology and in addition carries out medical research in the various specialized branches of laboratory medicine.

As in the past, the various activities of the institute will be considered under the following headings:

- A. Clinical Pathology Service.
- B. Training of Pathologists and Medical Technologists.
- C. Research.

A. CLINICAL PATHOLOGY SERVICE

Pathology is the study of disease in all its aspects; as such it constitutes the foundation on which the whole practice of medicine is based. For many years it embraced little more than the study of structural damage done to the body by the various disease processes to which mankind is subject and in consequence, was carried out mainly in the post-mortem room and to a lesser extent on tissues removed surgically. Up until the war, pathology consisted of little more than this together with the study of the bacterial causes of disease. Relatively simple examinations of blood and urine were sometimes done by clinicians in the side room of a ward. It was long recognized however that many diseases which produce no recognizable structural damage cause profound disturbances of function but it is really only since the war that the application of refined physical and chemical methods to the study of biological material has made possible the extremely accurate measurements necessary to reveal these disorders of function. Clinical Pathology as it is now called, is a highly developed specialized branch of medicine concerned with the laboratory investigation of all the manifestations of disease processes both structural and functional and its growth has been accompanied by a revolutionary change in the whole practice of medicine.

Formerly, clinical practice was largely an art, with doctors relying on a careful history of symptoms and examination of the patient to elicit physical signs as a guide to diagnosis while treatment was largely empirical, with the gross reactions of the patient the only guide. Today the whole picture is completely altered. Medicine has become a science and the clinician demands precise measurements to ensure accuracy in diagnosis and precision in the control of treatment. In an ever growing number of cases the clinical findings serve now only as a guide to the laboratory investigations which the clinician demands. Diagnosis depends not only on positive laboratory findings, but differential diagnosis demands a great variety of negative findings as well, as an aid to the exclusion of other possible considerations, whilst in many instances the selection and control of treatment is also under the laboratory guidance. Whereas in the past this type of medicine was regarded as the prerogative of the larger teaching hospitals, in recent years its practice has widened progressively so that today even the smaller hospitals and general practitioners are constantly

clamouring for greater investigational facilities. While it is no simple matter to meet these demands, they should not be discouraged. Indeed, if the quality of medical care is to be improved, with all that means in terms of national economy and social well being, every effort should be made to meet the demand, within reason, as without ready access to investigational facilities the modern doctor is handicapped in caring for his patients. Medical practitioners are by no means the only source of pressure for more laboratory investigations; patients are becoming increasingly aware of the need for proper investigation of their ailments as the mass media of communications publicize medical and scientific topics. It is in this context that the activities of the Institute of Clinical Pathology and Medical Research must be viewed. The range of investigations it undertakes is very broad embracing as it does practically every test of proved usefulness for which there is a demand. In its short history the institute has come to occupy a key position, with virtually every hospital in the State dependent to a lesser or greater degree on the service it provides. Many of the smaller country hospitals have either very limited or no laboratory facilities at all and are entirely dependent on the Institute. The larger base or district hospitals usually have laboratories staffed by a medical technologist with in most cases, no specialist pathologist in attendance, although some have a visiting pathologist, while a small proportion enjoy the services of a full-time pathologist. In any event, the range of work which they undertake is limited and what they cannot do is referred to the institute.

The institute is divided into seven separate departments and an account of their activities follows.

Histopathology

During the year 11,768 specimens were received and from these 43,171 sections were prepared and examined. The number of investigations shows an increase of 5 per cent over the previous year. It is of interest to record that in 1,847 cases the diagnosis of cancer was established; equally noteworthy is the large number of people who could be reassured that their disease was not malignant. Autopsies performed for the Lidcombe Hospital totalled 255 and a further 142 were done by our staff for other hospitals and for the Division of Forensic Medicine, i.e., a total of 397. During the year 263 specimens were mounted and added to the Museum of Pathology Anatomy.

The Histopathology department now ranks as the busiest in Australia and it is a matter of no little satisfaction that virtually all the work is done by staff who have received all their training in this institute.

Exfoliative Cytology

The Department of Exfoliative Cytology was established in 1960 in order to apply mass screening methods to the problems of uterine cancer. No such project had ever before been undertaken in Australia and few centres in the English-speaking world have had experience of a similar venture of such magnitude.

The Uterine Cancer Detection programme is now entering its eighth year and the following figures illustrate the rate of growth:

<i>Year ended 31st December—</i>								<i>Number of specimens</i>
1962	..	..	..	..	..	..	..	16,512
1963	..	..	..	..	..	..	..	37,538
1964	..	..	..	..	..	..	..	56,565
1965	..	..	..	..	..	..	..	87,828
1966	..	..	..	..	..	..	..	127,890
1967	..	..	..	..	..	..	..	155,969
1968	..	..	..	..	..	..	..	172,040

There is a 10.3 per cent increase in 1967-68 over the number of specimens received in 1966-67.

Since the inception of this scheme 1,769 women have been found in whom evidence of pre-clinical cancer was present. In 1,385 of these the disease has been histologically confirmed and treated while 384 are still under investigation.

It was found that because of eye fatigue a scanner could spend no more than half the working day doing microscopy. The employment of scanners on a part-time basis was commenced and this scheme has proved very successful. It has been established that a scanner working for half a day has an output equal to that of one working full-time.

Apart from Uterine Cancer the Exfoliative Cytology Department undertakes cytodiagnosis of a variety of other types of malignant disease, notably lung, stomach, bladder, etc. During the year 1,292 such specimens were received from which 5,712 smears were examined, an increase of 23.4 per cent over the previous year.

Haematology

During the year the Haematology Department received 8,357 specimens on which 32,124 examinations were carried out—an increase of 2·5 per cent. As in previous years the greater proportion of the increase is made up by the more complex investigations so that the figures of this department's output give little indication of the actual increase in work load. There is a significant upswing in the numbers of difficult blood and marrow films sent in from suburban and country hospitals for consultative opinion. Diagnostic tests for haemaglobinopathies have doubled in the past year and as awareness of these disorders spreads they are being done more and more as a basis for genetic counselling. Red cell folate estimations have been added to the repertoire of tests available for the investigation of the megaloblastic anaemias. These are being applied to the investigation of alcoholics, epileptics, and pregnant women. Because of the complexity of these investigations they have all to be carried out by senior staff and this has imposed a heavy burden on the department.

Venereal Disease Serology

During the year 49,728 specimens were received for serological examination. This figure is an increase of 17·4 per cent over the previous year. On these specimens 176,298 tests were carried out (15·7 per cent more than last year). As in the previous year the heaviest intake came from public hospitals (44,660 tests). The Psychiatric Hospitals contributed 32,875 to the total while 30,712 tests were done for the Division of Epidemiology, 20,051 for private medical practitioners, and 12,790 for the Prisons Department.

The laboratory's reference facilities were increasingly used by the other States, New Zealand, and Fiji. There was a 33 per cent increase in the number of TPI tests performed—from 4,225 in the year to December, 1967, to 5,627 to December, 1968. The laboratory completed a Treponemal Serological survey of the Northern Territory Aboriginal in association with the School of Public Health and Tropical Medicine, Sydney University. This work was initiated by the National Health and Medical Research Council. At present a Treponemal survey of the island of Kar Kar, New Guinea is being carried out. This work is being done in conjunction with the Institute of Human Biology in New Guinea and is part of the United Nations International Biological Programme for 1969.

Three visitors have come to the laboratory to learn Fluorescent Treponemal Antibody Techniques in the past 12 months—two from Fiji and one from South Australia.

Virology

Specimens for virological investigation increased considerably during the year—6,572 specimens were received and on these 10,776 tests were performed. These figures represent increases of 49·5 per cent and 45·7 per cent respectively over the previous year. The major factor in the increase was the rubella haemagglutination Inhibition Test which was introduced during the year—998 of these tests were done.

Bacteriology

The Bacteriology Department received 16,392 specimens compared with 18,374 in the previous year (a fall of 10·8 per cent). This fall is accounted for by the fact that there was an outbreak of diphtheria in 1967 as a result of which a large number of throat swabs were submitted for examination; when the outbreak subsided, the number of throat swabs returned to about the average annual level. The numbers of throat swabs examined over the past 3 years tells the story quite clearly:

1966	..	..	..	..	..	..	..	240
1967	..	..	..	..	..	..	..	3,885
1968	..	..	..	..	..	..	..	496

Despite this fall in the total number of specimens received the number of tests performed rose from 42,986 in 1967 to 49,283 in 1968. This increase of 14·7 per cent is an indication of the increasing complexity of work. The heaviest burden fell on the Tuberculosis Laboratory which, though extremely cramped, is now adequately staffed. Sensitivity tests are now routinely performed on eight drugs for every strain when first isolated or received. In 1968, 3,904 such tests were performed; last year the figure was 2,884. The battery of identification tests has been enlarged to permit better classification of anonymous mycobacteria which now constitute about 20 per cent of all organisms of this group handled in the laboratory. The technique of thin-layer chromatography for the classification of mycobacteria has been established by Mr O'Connor, the Senior Microbiologist in the Bacteriology Department.

Biochemistry

During the year 27,256 specimens were received for biochemical analysis, an increase of 21·9 per cent over the previous year. On these specimens 59,903 tests were carried out. The rate of increases which slackened last year has returned to about its former level of over 20 per cent per annum.

The automated equipment for estimations of serum protein bound iodine, which was installed during the year, is coping well with the great demand. The work load has now reached a level at which further automatic equipment is essential for smooth running. To avoid massive financial outlay on fully automated analytic instrumentation, the purchase of semi-automatic equipment at about one-fifth the price of the former has been requested. This should prove adequate for the next 5 years.

B. TEACHING

Training of Medical Graduates as Pathologists

The Institute enjoys full recognition by the University of Sydney and the College of Pathologists of Australia as an approved laboratory for the training of medical graduates seeking specialist qualifications in Pathology. Seven registrars are at present undergoing training in the Institute's laboratories. The tenure of the Registrarships is 4 years during which time the trainees spend 15 months doing pathological anatomy and histology and 9 months in each of the other major departments, i.e., Haematology, Bacteriology, and Clinical Biochemistry, leaving a further 6 months for general revision. Postgraduate teaching activities are reinforced by attendance at seminars, scientific meetings, lectures, and informal tutorials. For 6 months while working in the Haematology Department the Registrar is either in residence or on call for all emergency pathology work at the Lidcombe Hospital and in this way he is able to gain experience in emergency pathology.

Bearing in mind that it is not yet 10 years since the Institute was established and that it took almost a year before effective training programmes were developed and trainees recruited, the results have been most gratifying. Pathologists are required to undergo a minimum of 5 years Postgraduate training before becoming eligible for membership of the College of Pathologists of Australia and in 1965 the first of our trainees qualified. During 1966, a further three qualified and in 1967 another four gained their specialist qualifications; another one graduated this year. The contribution which this Institute is now making towards overcoming the serious shortage of Pathologists in New South Wales is a matter for satisfaction.

Training of Laboratory Assistants and Medical Technologists

Training of Laboratory Assistants and Medical Technologists is conducted on an apprenticeship system combined with part-time formal studies at the Sydney Technical College. Laboratory Assistants-in-Training undergo a 4-year course after which they are eligible to sit for the Biology Certificate at the Sydney Technical College and qualify as Laboratory Assistants (now Technical Officers); after a further 2 years of study, i.e., 6 years in all, they may qualify for the post-certificate Diploma in Medical Technology. To date 44 of our trainees have qualified for the Biology Certificate and of these 5 have left without proceeding to the Diploma in Medical Technology. Of the remaining 39, 20 acquired the post-certificate Diploma in Medical Technology.

The technical staff of the Department of Exfoliative Cytology known as scanners are all trained at the Institute which is now in a position not only to offer training to Pathologists and Gynaecologists but also to train cytotechnicians and scanners for outside bodies. Several from New South Wales and other States have already taken advantage of the training facilities offered by the Institute.

C. RESEARCH

This aspect of our work has still not received the attention it deserves, mainly because the heavy commitments for diagnostic investigation have meant that senior members of the staff have had little opportunity to pursue their research interests or to cultivate these activities among their junior staff, who have themselves to carry out much of the routine work under supervision. This is a pity because the interest and ability to pursue useful research is there, the materials and facilities are available, and all that is really lacking is time. The original plan which we have pursued diligently over the years, of appointing from the best of our trainee pathologists, understudies to each specialist departmental head, has met with only moderate success. These positions have been filled in Histopathology, Virology, and Biochemistry but as yet none has displayed an interest in occupying similar positions in the other departments. The appointees to Histopathology have found the burden of routine work so heavy that there is little time left for original work. However, those appointed in Biochemistry and Virology have settled in well and are contributing materially to our research activities.

Despite our present difficulties, programmes of original work are being pursued in various departments. Much of this is of a developmental nature aimed at overcoming technical difficulties inherent in some of the more specialized investigations. Some involve epidemiological or other types of survey while the small residue is rather more fundamental in nature.

Biochemistry

Porphyria metabolism.—Exploratory work has commenced on the metabolism of δ -aminolaevulinic acid, a metabolite of considerable interest in the study and treatment of porphyric diseases. Much is to be learnt about the metabolic fate of this intermediate. The evaluation of a rapid screening method for urinary δ -aminolaevulinic acid as an index of lead poisoning is being carried out in conjunction with Government Analyst Branch with the objective of replacing urinary lead determinations with this more discriminating and more readily carried out test.

Steroids Research.—This work is continued along similar lines to that previously described, namely studies of urinary neutral steroid metabolites. Numerous aspects are being investigated. A rapid gas chromatographic method for the analysis of urinary steroids is being sought to replace the present colorimetric procedures which are difficult to control. Two major projects one completed and one nearing completion have been: (a) a study of the rates of hydrolysis of steroid glucuronides in urine; (b) changes in steroid metabolism in thyroid diseases.

Protein and immunochemistry.—This branch is expanding rapidly. Surveys of immunoglobulin levels in local Aboriginal children and in a group of deaf children have been undertaken. A survey of levels in healthy Sydney blood donors has continued and has been extended. Studies of immunoglobulins in various diseased states including multiple myeloma and disseminated lupus erythematosus are continuing. Techniques of immunodiffusion and immunoelectrophoresis are now being applied routinely to investigations of sera, urine, and cerebro-spinal fluid for both individual and grouped proteins.

Histopathology

Work has proceeded on the histochemistry of mucins and techniques of immunohistochemistry with particular reference to fluorescence microscopy have continued. The Histopathology department is also collaborating with the Virology department in attempts to adapt fluorescent antibody methods to hasten the serotyping and identification of certain viruses; and in collaboration with the Haematology department and clinicians of the Lidcombe Hospital in investigating gastric function in the elderly.

The staff of the department completed and submitted for publication a detailed histochemical study of keratin, as a result of which it has been possible to establish the histogenesis of an unusual skin tumour, pilomatrixoma.

Virology

Research activities in the Virology department have concentrated on a variety of aspects of the Rubella problem, particularly in pregnancy and in the newborn. An evaluation of the rubella haemagglutination inhibition test has been carried out to define in particular its accuracy and limitations in diagnosis. A serological investigation into the overall population immunity to Influenza A₂/Hong Kong/68 was carried out on some hundreds of specimens of blood made available by courtesy of the Red Cross Blood Transfusion Service. This department is also conducting studies on the antibody response to influenza vaccination with the locally produced C.S.L. vaccine and an investigation into the protection rate afforded by this vaccine has been initiated. Work on immunofluorescence has continued and an antiglobulin to rabbit serum has been prepared in a sheep.

Bacteriology

Studies are in progress on the changes which occur in splenic and peritoneal macrophages of mice after the injection of certain colloidal substances. A paper on this subject was published during the year. A co-operative trial between the department of Bacteriology and some other major laboratories in Australia on the efficacy of certain procedures used for the treatment of sputum for isolation of mycobacterium tuberculosis is in hand. Work is also proceeding on improving techniques for the classification of "anonymous" mycobacteria utilizing thin-layer chromatography of extracted lipid fractions. The development of a complement-fixation test for the detection of chronic Brucella infections has been completed and this is now in use; and a survey project on the incidence of enteropathogenic bacteria in a suburban babies' home is nearing completion.

Haematology

Investigation of this nutritional status of aged males, with particular reference to haematinics, has continued during the year. Further progress has been made on the screening of all specimens of sera deficient in vitamin B₁₂ for Intrinsic Factor antibody as a further diagnostic test for pernicious anaemia. Technical difficulties associated with the assay of Folic Acid have prompted a full scale investigation of the assay procedure with a view to refining the technique and improving the reliability of the results. Some early investigational work on pyridoxin assaying using tetrahymena was started but is at present in abeyance. Mention has already been made of work in progress on the haemaglobinopathies and red cell folate levels in pregnancy, alcoholics, and epileptics.

Exfoliative Cytology

The main research activity of the department of Exfoliative Cytology is a long term evaluation of the effect of mass population screening on morbidity and mortality from carcinoma of the cervix. Concurrent with this is an investigation into certain epidemiological aspects of cervical carcinoma, such as age, parity, hormonal influences, etc. Both these projects involve the sorting and statistical analysis of a very large volume of records. During the year considerable progress has been made in transferring all the records to A.D.P. and at present a back log of only some 50,000 cards remain. By the end of the year all records should be computerized and when, towards the latter part of next year, we receive our millionth Papanicolaou smear we propose to undertake a detailed assessment of the whole project. In addition an investigation has been undertaken of a single parameter—nuclear size as a cytological criterion of malignancy.

Venereal Disease Serology

This department completed a treponemal serological survey of the Northern Territory Aboriginal in association with the School of Public Health and Tropical Medicine, Sydney University. This work was initiated by the National Health and Medical Research Council.

At present a treponemal survey of the island of Kar Kar, New Guinea, is being carried out. This work is being done in conjunction with the Institute of Human Biology in New Guinea and is part of the United Nations International Biological Programme.

An analysis has been made of Biological False Positive reactions in syphilis serology and an interesting finding to emerge is the hitherto unrecognized association of this phenomenon with multiple blood donations.

GENERAL

The original buildings of the institute were completed and occupied in July, 1959. The premises were designed to accommodate Departments of Histopathology, Haematology, Clinical Biochemistry, Bacteriology, and Virology. The space allotted to these several departments was, at the time, adjudged adequate if not generous on the basis of the work load which, up till then, had been borne by the Microbiological Laboratory at 93 Macquarie Street. Yet it very soon became apparent that the laboratory accommodation would barely suffice for the work which immediately began to flow to the institute from hospitals and medical practitioners throughout the State.

Early in 1960, following representations by various interested bodies to the then Minister for Health, Mr W. F. Sheehan, it was decided to establish a State-wide service, based on the Institute, for the early detection of cancer of the uterine cervix. This necessitated extension of the laboratories and in planning the accommodation which would be required some estimate had to be made of the number of specimens which might have to be handled annually. This was no simple matter because of the problem in forecasting the extent of the demand from both the public and the medical profession. It was finally decided to plan on the basis of ultimately handling up to 100,000 specimens per year, although at the time it was believed that this target might well not be attained within 10 years. While planning extensions to accommodate the Cancer Detection Service, the opportunity was taken to provide, at the same time, more adequate accommodation for the then existing departments. Plans for the extensions were submitted in July, 1960, estimates of the accommodation which might be required being based on the volume of work undertaken during the year 1959–1960 since these were the only figures available. It was thought at that time that accommodation sufficient to handle twice the work load would probably be adequate for the next 10 years; events, however, proved our projections far too low. In the fourth year after its inception, the Exfoliative Cytology (Cancer Detection) Department received 128,000 specimens and this year will probably exceed 190,000.

The rate of increase in the work loads of the other departments has been no less staggering as figures extracted from successive Annual Reports show. In Histopathology the work load has doubled by 1962, trebled by 1964, and quadrupled by 1967. Clinical Biochemistry doubled by 1963, trebled by 1965, quadrupled by 1967, and by 1968 had increased almost sixfold. Haematology doubled by 1961, trebled by 1962, quadrupled by 1963, and by 1966 had increases fivefold; the 1968 figure is more than six times that of 1960. Virology has increased to more than ten times the 1960 figure. Increases in Bacteriology and V.D. Serology (transferred to the institute in 1964) though less spectacular are nonetheless very substantial by any standard. These increases in work output have of course necessitated increased staff. In 1960 the staff numbered 38; today it is almost 200. The work output continues to rise during the year ending 31st December, 1968. Some of the more spectacular increases over the figures for the previous year in the numbers of specimens received are: Biochemistry 21·9 per cent, Exfoliative Cytology 9·8 per cent, Virology 45·7 per cent, and V.D. Serology 17·4 per cent.

Since its inception in 1962, the Cancer Detection Service provided by the Exfoliative Cytology Department has grown to the extent that it is now the second largest in the English-speaking world—and this is despite carefully restricted publicity. The Histopathology Department, which caters for several of the large suburban district as well as nearly all the country hospitals, is the busiest and largest in this State, if not in Australia, dealing as it does with over 1,000 surgical specimens per month. The V.D. Serology Department is by far the busiest and largest in Australia; it serves not only New South Wales but is designated the national reference diagnostic centre receiving problem specimens from all States and also New Zealand, Papua-New Guinea, Fiji, and even on occasions as far afield as the Philippines. The Bacteriology Department is the reference centre for all tuberculosis bacteriology in New South Wales, while the Virology Department which provides the only generally available Virus Diagnostic Service in the State, has additional functions as a W.H.O. Influenza Centre and a reference laboratory for the identification of enteroviruses for Australia as a whole. The Haematology and Biochemistry Departments perform a wide variety of the more complex and highly specialized tests, not only for suburban and country hospitals but also for all the major teaching hospitals in Sydney. Indeed there is not a hospital of any consequence in New South Wales that does not rely on the institute for the performance of a greater or lesser proportion of its laboratory investigational work.

The volume of work now flowing into the institute from all over the State has long since exceeded the laboratory accommodation necessary for its proper performance and it has only been possible to maintain the service by resorting to a number of unsatisfactory and inconvenient expedients. Foyers and store-rooms have been taken over for office or laboratory accommodation; the museum had to be given up and the specimens stored on shelves erected in the passage; the library has to be transferred to the new building which houses the Government Analyst and the Division of Occupational Health since we can no longer afford the space it occupies—this is now required for laboratory use; the Photographic Department has also to be adapted as laboratories and all the special laboratories originally designed for research use by the senior staff have been taken over for routine purposes. There is literally nothing further that can be given away and adapted for laboratory purposes and we are now faced with an acute accommodation problem.

In consultation with officers of the Government Architects Branch, preliminary plans have been drawn for extensions which, it is believed, will be adequate for the next 5 and hopefully 10 years.

These plans envisage a new five-storey wing connected to the present building, with 5,660 sq ft of useable laboratory and office space per floor. The ground floor is designed to accommodate general administration, central store, staff amenities, outpatient cubicles, and lecture room; the first floor the Department of Exfoliative Cytology and Laboratory administration; the second floor Clinical and Public Health Bacteriology; the third floor Virology and V.D. Serology, whilst the top floor is set aside for research and instructional purposes. These could, if a further accommodation crisis arose, be curtailed and the space allocated for routine service functions. The top floor also contains a small self-contained apartment for a resident caretaker to look after general security and monitor the alarm systems warning of any out of hours failure of essential plant or equipment throughout the laboratory complex of Government Analyst Branch, Occupational Health Division, and the institute. A noteworthy feature of the new wing is that it provides accommodation for Public Health Bacteriology—an essential service in any civilized community. Although the Government Analyst Branch caters for food, water, and other inanimate microbiology, New South Wales has for years been without any organized facilities for monitoring and investigating the human aspects of Public Health Bacteriology since, when the institute was originally designed, no accommodation was provided for these particular purposes.

It is proposed to reallocate accommodation within the existing building as follows: Histopathology and Immunology to take over the space at present occupied by Exfoliative Cytology, Virology and V.D. Serology; Haematology to occupy the laboratories which at present serve for Bacteriology, while Clinical Biochemistry will extend at one end by incorporating the library and senior staff tea room and at the other into the central wing which at present houses offices and the Haematology Department. Although this re-arrangement will provide approximately double the space at present allocated to each of the specialized departments it cannot in any sense be regarded as extravagant since in every case the additional space allowed for even with the minor structural modifications planned, is considerably less than the departmental heads believe to be desirable.

It is earnestly hoped that a prompt decision to proceed with these extensions will be forthcoming and that efforts to secure a high priority will be vigorously pressed. The unfortunate reversal of the decision to transfer the Institute to the new premises at present under construction for the Division of Forensic Medicine has already delayed our expansion by some 18 months. Since at best it must take at least 2 years to complete the buildings any further delay must without doubt lead to a rigorous curtailment of the service we provide; otherwise its quality will be compromised and this is unacceptable where human lives depend on accurate reports. A great many sick people in this State are treated in numerous suburban and country hospitals which lack adequate laboratory facilities; to have to restrict the service available to them from the Institute would indeed be lamentable.

Conclusion

This year has seen a further all round expansion in the activities of the Institute of Clinical Pathology and Medical Research. The volume of work done in all departments has continued to increase while the variety of investigations offered has steadily broadened. Many of the investigations now undertaken at the Institute were not previously available in New South Wales or if they were available were restricted to patients attending at a few specialized hospitals. That they are now generally available to the entire population must add materially to the quality of medical practice in this State. The time might now be opportune to consider the future development of the Clinical Pathology Service provided by the Institute. In 9 years the amount of work has increased phenomenally and if the present trend continues, and there is every reason to believe that it will, it is not difficult to envisage a situation where the available laboratory space can no longer accommodate the volume of work. Indeed this situation has already been reached in the Bacteriology Department and is rapidly approaching in the Departments of Exfoliative Cytology, Histopathology, Biochemistry, and Venereal Disease Serology. The New South Wales Department of Public Health is now in a position to provide a comprehensive diagnostic laboratory service second to none in this State. That this has come about in so short a period is due in some measure to the excellent facilities provided, but of far greater consequence is the very high quality of the staff which we have been fortunate enough to recruit. They have always reacted with enthusiasm to any proposals aimed at improving the output and quality of the work, and it is to this spirit that the results achieved to date are attributable. That it has been possible to encourage and maintain this enthusiasm is due in no small measure to the co-operation and support which we have enjoyed from the central administration of the New South Wales Department of Public Health and other Government Departments, notably the Public Service Board, the Government Stores Department, and the Department of Public Works.

Of the three functions, the service component is now fully operative and flourishing. The far-sighted training programme inaugurated in the early days is now bearing fruit so that the early anxieties over staffing have been dissipated and it now remains to develop the research activities which have perhaps languished a little because of the necessity to ensure that the other two functions were first solidly established. Given continuation of the support which we have enjoyed to date, there is now no reason why we should not, in the coming years, make significant contributions of original work which will add further to the reputation which the New South Wales Department of Public Health has built up over the past few years.

1ST JANUARY, 1968—31ST DECEMBER, 1968

1967

					1967		1968	
					Specimens	Sections	Specimens	Sections
Surgical—								
No. specimens received	..	..	..	..	12,393		11,768	
Paraffin sections	..	..	..	..		38,824		37,672
Frozen sections	..	..	..	..		131		71
Post Mortem (total Post-mortems 397)—								
No. performed (Lidcombe)	..	..	..	..	250		255	
Paraffin sections	..	..	..	..		3,374		4,490
No. performed (City Morgue and elsewhere)	..	..	..	..	..		142	
Museum and Library Specimens—								
No. mounted	..	..	..	..			263	
Paraffin sections	..	..	..	..				260
Miscellaneous	..	..	..	..		301		678
						<hr/>	<hr/>	
						42,630		43,171

1967

							1967	1968
Chorionic Gonadotrophin Immuno-Assay .. .. .	..	..	..	..	..	..	158	184
Gastric parietal cell antibodies in serum .. .. .	..	..	..	..	..	..	10	1
Anti-nuclear factor in serum .. .. .	..	..	..	..	..	..	81	187
Thyroid antibodies in serum .. .. .	..	..	..	..	..	..	31	29
Histochemical examinations .. .. .	..	..	..	..	..	..	..	3
							<hr/> 280	<hr/> 404

4.510

Number of specimens	..	..	..	..	..	..	..	..	4,510	6,572
Examinations completed—										
Virus isolation and identification investigations					..	..	..		1,638	1,937
Toxoplasmosis Isolation	..	..	..	..	..	..	..		..	2
Mycoplasma Isolation	..	..	..	..	..	..	..		..	25
Complement fixation tests		..	..	..	..	..	..		2,560	3,586
Neutralization tests—										
Polio	..	..	..	..	..	..	..		48	69
Coxsackie	..	..	..	..	..	..	..		1,164	2,022
E.C.H.O.	..	..	..	..	..	..	..		4	..
Influenza	..	..	..	..	..	..	..		4	..
Vaccinia	..	..	..	..	..	..	..		..	2
Rubella	..	..	..	..	..	..	..		111	..
Inclusion bodies (trachoma)		..	..	..	..	..	..		20	6
Haemagglutination tests	..	..	..	..	..	..	..		1,659	
Toxoplasma	..	..	..	..	..	..	..			2,129
Rubella	..	..	..	..	..	..	..			998
									7,208	10,776

Biochemistry

	1967	1968
Number of specimens	22,359	27,256
Examinations completed—		
C.S.F. for—		
chloride	91	149
Globulin	81	135
Glucose	122	197
Protein	161	220
 Blood and Serum for—		
acid phosphatase	405	464
alkaline phosphatase	1,893	2,254
amylase	129	177
bilirubin	1,786	1,918
bromide	100	165
calcium	643	1,132
cholesterol	1,078	1,447
creatinine and creatine	360	552
Electrolytes, Sodium, Potassium, Chlorides, CO ₂	6,463	8,341
Glucose	620	954
iron, total iron binding capacity	3,534	3,595
lipids	296	548
lactic dehydrogenase, glutamic pyruvic transaminase, glutamic oxalacetic transaminase	2,369	3,351
foetal haemoglobin	135	106
methaemoglobin	28	25
phosphate (inorganic)	401	716
proteins—total	3,569	3,971
proteins—albumin	2,536	3,544
proteins—globulin	2,531	3,529
proteins—electrophoresis	2,931	2,984
Protein-bound iodine	6,085	8,446
urea	3,316	3,623
uric acid	1,099	1,418
calculus	89	117
Immune—globulin assay .. .. .	..	312
 Faeces for—		
fats	439	507
occult blood	158	81
tryptic activity	3	..
 Urine for—		
bilirubin, porphobilinogen, urobilinogen	18	181
porphyrins	162	281
catecholamines	948	905
17-Oxosteroids/Oxogenic steroids	1,907	1,764
5-Hydroxy indoles	86	94
urea	134	85
sugar	455	750
Miscellaneous chemical examination	802	865
	<hr/> 48,063	<hr/> 59,903

Statistical Summary of Specimens Received and Examinations Completed—*continued*

1ST JANUARY, 1968—31ST DECEMBER, 1968

Bacteriology

	1967	1968
Number of specimens	18,374	16,392
Examinations completed—		
Antibiotic sensitivity tests	8,418	10,242
Blood culture	50	509
Cerebrospinal fluid cell count	149	202
Cerebrospinal fluid culture	57	43
Dark-ground preparation, spirochaetes	5	10
<i>Escherichia coli</i> , serotype identification	30	78
Faeces, microscopic examination	109	155
Faeces, culture	697	809
Guinea pig inoculation, <i>M. tuberculosis</i> (other than milk)	446	748
Haemolytic streptococci, Lancefield grouping	293	157
Milk, guinea pig inoculation, <i>M. tuberculosis</i>	11	60
Milk, guinea pig inoculation, <i>B. abortus</i>	11	60
Nasal smears, <i>Mycobacterium leprae</i>	18	24
Nasal swabs, culture	16	15
Pus, Gram's stain	784	1,369
Pus, culture	784	1,369
Culture, identification	476	566
Skin, hair and nail, direct examination	377	410
Skin, hair and nail, culture for fungi	380	410
Sensitivity tests, <i>M. tuberculosis</i>	2,884	3,904
Sputum, Gram's stain	554	1,051
Sputum, culture	544	1,051
Sputum, Ziehl-Neelsen stain	2,834	3,027
Sputum, culture	2,834	3,027
<i>Staphylococcus aureus</i> , bacteriophage typing	70	..
Sterility tests .. .. .	..	2
Throat swab culture	3,885	496
Urethral smears, Gram's stain	2,257	1,644
Cervical smears, Gram's stain	1,240	1,147
Urine, chemical examination	2,221	3,001
Urine, microscopic examination	2,221	3,001
Urine, Gram's stain	2,409	3,238
Urine, culture	2,409	3,238
Vaccines	6	5
Vaginal discharge, <i>Candida albicans</i>	4	12
Vaginal discharge, <i>Trichomonads</i>	5	14
Brucella agglutination test	383	544
Brucella Complement Fixation test .. .. .	..	325
Rose-Waaler test	710	312
Weil-Felix reaction	161	144
Widal Reaction	195	294
Anti-streptolysin 'O' titre	1,159	1,057
Casoni test	6	17
Mantoux test	495	422
Latex Screening Test	267	741
Miscellaneous bacteriology	112	333
	<hr/> 42,986	<hr/> 49,283

Statistical Summary of Specimens Received and Examinations Completed—*continued*

1ST JANUARY, 1968—31ST DECEMBER, 1968

Haematology

									1967	1968
Number of specimens	..	..	..	..	..	..	..	..	8,292	8,357
Examinations completed—										
Haemoglobin	..	..	..	..	..	..	..	..	5,775	5,697
Haematocrit	..	..	..	..	..	..	..	..	5,291	5,297
Red cell count	..	..	..	..	..	..	..	..	17	..
Reticulocytes	..	..	..	..	..	..	..	..	240	356
White cell count	..	..	..	..	..	..	..	..	3,814	3,780
Differential white cell count	..	..	..	..	..	..	..	..	3,320	2,910
Eosinophil count	..	..	..	..	..	..	..	..	..	15
Platelet count	..	..	..	..	..	..	..	..	127	145
Examination of blood film	..	..	..	..	..	..	..	..	5,886	5,802
Malaria	..	..	..	..	..	..	..	..	18	12
Blood sedimentation rate (E.S.R.)	..	..	..	..	..	..	..	..	2,177	2,121
L. E. cells	..	..	..	..	..	..	..	..	129	116
Prothrombin time	..	..	..	..	..	..	..	..	249	397
Examination of blood film for lead	..	..	..	..	..	..	..	..	2	4
Group and Rh factor	..	..	..	..	..	..	..	..	471	492
Cross-matching	..	..	..	..	..	..	..	..	621	750
Bone marrow examination	..	..	..	..	..	..	..	..	143	196
Bleeding and clotting times	..	..	..	..	..	..	..	..	20	17
Investigation of haemostatic defects	..	..	..	..	..	..	..	..	2	10
Serum vitamin B ₁₂	..	..	..	..	..	..	..	..	1,366	1,526
Serum folic acid	..	..	..	..	..	..	..	..	457	783
Intrinsic factor assay	..	..	..	..	..	..	..	..	4	5
Blood volume	} radioisotope tracer method	..	..	..	..	..	..	..	1	3
Red cell survival		..	..	..	..	..	..	..	2	5
Schilling test		..	..	..	..	..	..	..	20	28
Coomb's test	..	..	..	..	..	..	..	..	670	817
Red cell fragility	..	..	..	..	..	..	..	..	10	4
Paul-Bunnell reaction	..	..	..	..	..	..	..	..	250	215
Haemoglobin electrophoresis	..	..	..	..	..	..	..	..	174	280
Intrinsic Factor Antibodies	..	..	..	..	..	..	..	..	..	46
Histochemistry	..	..	..	..	..	..	..	..	..	19
Miscellaneous	..	..	..	..	..	..	..	..	104	102
Foetal Haemoglobin	..	..	..	..	..	..	..	..	..	120
Foetal Absorption	..	..	..	..	..	..	..	..	..	21
Red cell Folate	..	..	..	..	..	..	..	..	..	33
									31,360	32,124

Venereal Disease Serology

Examinations completed—										
Quantitative Wassermann Reaction	..	..	..	..	..	..	..	..	2,521	2,932
Wassermann Reaction	..	..	..	..	..	..	..	..	43,835	50,840
Reiter Protein Complement Fixation Test	..	..	..	..	..	..	..	..	44,826	51,575
V.D.R.L. Test	..	..	..	..	..	..	..	..	45,844	53,662
Hydatid Complement Fixation Test	..	..	..	..	..	..	..	..	332	357
Gonococcal Complement Fixation Test	..	..	..	..	..	..	..	..	6,115	8,910
L.G.V. Complement Fixation Test	..	..	..	..	..	..	..	..	42	37
Treponema Pallidum Immobilization Test	..	..	..	..	..	..	..	..	4,225	5,626
Fluorescent Treponemal Antibody Test	..	..	..	..	..	..	..	..	4,693	2,359
									152,433	176,298

Exfoliative Cytology

Number of specimens received—										
Gynaecological	..	..	..	..	..	..	..	..	155,969	172,040
General	..	..	..	..	..	..	..	..	1,177	1,292
									157,146	173,332
Number of smears examined—										
Gynaecological	..	..	..	..	..	..	..	..	155,969	172,040
General	..	..	..	..	..	..	..	..	3,531	5,712
									159,500	177,752

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

ADDRESSES TO LEARNED SOCIETIES AND PUBLIC BODIES BY STAFF MEMBERS
DURING 1968

"The Persistence of Virus in Rubella Induced Cataracts". Address to 40th ANZAAS Congress, January, 1968. Mr A. M. Murphy.

"Venereal Disease in the Community—Diagnostic and Laboratory Criteria". General Revision Course of Post-graduate Committee in Medicine. Sydney University, May, 1968. Dr M. F. Garner.

"Zirconyl-phosphate Gel in the Assay of Intrinsic Factor Antibody". Address to Haematology Society of Australia, May, 1968. Dr B. J. Arnold and Miss P. J. Fleming.

"The use of Computers in Clinical Cytology". Paper read at Third International Congress in Cytology, Rio de Janeiro, May, 1968. Dr T. J. Ryan.

"Problems associated with the diagnosis and management of pre-clinical Carcinoma of the Cervix". Paper read at Lady Hardinge Memorial Hospital, New Delhi, June, 1968. Dr T. J. Ryan.

"Problems associated with the diagnosis and management of pre-clinical Carcinoma of the Cervix". Paper read at Queen Elizabeth Hospital, University of Hong Kong, June, 1968. Dr T. J. Ryan.

"The Biological False Positive Reaction to Serological Tests for Syphilis". Paper read at 13th Annual General Meeting of College of Pathologists of Australia, August, 1968. Dr M. F. Garner.

"Particle aggregation by peritoneal contents". Paper read at 13th Annual General Meeting of College of Pathologists of Australia, August, 1968. Dr S. Fisher.

"Viral Infections of Importance in Pregnancy and their Diagnosis". Paper read at Third BMA/AMA Congress, August, 1968. Mr A. M. Murphy.

"The Gastric Mucosa in Healthy Old People". Paper read at Third BMA/AMA Congress, August, 1968. Dr Joan Cooper Booth.

"Antibiotic Sensitivity Testing". Paper read at Third BMA/AMA Congress, August, 1968. Dr S. Fisher.

"Geriatric Haematology". Address to the Geriatric Nursing Course, Repatriation Department, September, 1968. Dr B. J. Arnold.

"Current Aspects of the Epidemiology of Syphilis". Address to Society for Microbiology, November, 1968. Dr M. F. Garner.

"Influenza 1968". Address to N.S.W. Branch of Australian Society for Microbiology, November, 1968. Mr A. M. Murphy.

"Early Diagnosis of Carcinoma of the Cervix". Address to Newcastle Obstetrical and Gynaecological Society, December, 1968. Dr T. J. Ryan.

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH
WEEKLY SEMINARS HELD DURING 1968

(In Conjunction With The Lidcombe Hospital and Home)

<i>Date</i>	
12th February, 1968.	(1) "Aldosterone and its Control in Oedema". (2) "The Inflammatory Process". } Films.
19th February, 1968.	"Renal Transplantation". Dr A. G. R. Sheil, Department of Surgery, University of Sydney.
26th February, 1968.	"Iron Metabolism and the Use of Infeon in Pregnancy". Dr Barry G. Wren, Royal Hospital for Woman.
4th March, 1968.	"Pitfalls in Choosing Case Material for Clinical and Pathological Research". Dr C. M. Fletcher, England.
11th March, 1968.	"Induction of Ovulation". Associate Professor R. P. Shearman, Department of Obstetrics and Gynaecology, Sydney University.
18th March, 1968.	"General Practice". Dr P. J. D'Arbon.
25th March, 1968.	"Clinicopathological Conference".
1st April, 1968.	"The Forgotten Question—Occupation". Dr R. Simpson, Lidcombe Hospital.
8th April, 1968.	"The Immunological Determination of Serum Proteins". Dr W. G. Jones, Institute of Clinical Pathology and Medical Research.
22nd April, 1968.	"Psychiatric Problems in the Aged". Dr W. McSwiggen, Parramatta Psychiatric Centre.
29th April, 1968.	"Fibrosing Alveolitis". Dr K. Viner Smith, Department of Morbid Anatomy, Royal North Shore Hospital.
6th May, 1968.	(1) "Zirconyl Phosphate Gel in the Assay of Intrinsic Factor Antibody". Miss P. Fleming. (2) "The Use of Histochemical Stains in the Diagnosis of Leukemia". Miss D. Leadle. (3) "The L. Casei Assay for Serum Folate Activity". Miss J. Lee. Haematology Department, The Institute of Clinical Pathology and Medical Research.
1st July, 1968.	"Experimental Studies in Tumor Immunology". Dr A. E. Cronin, Department of Bacteriology, Sydney University.
8th July, 1968.	Case Reports: (1) Myeloma with Renal Carcinoma. (2) Amoebiasis. (3) Myosarcoma of the Lung.
15th July, 1968.	"The Gastric Mucosa in Healthy Old People". Dr J. Cooper Booth. "Antibiotic Sensitivity Testing". Dr S. Fisher. "Viral Infections of Importance in Pregnancy". Mr A. M. Murphy. Institute of Clinical Pathology and Medical Research.
22nd July, 1968.	"Pathology of Mental Retardation". Dr G. A. Broe, Lidcombe Hospital.
29th July, 1968.	"Some Observations of Neurology Overseas with Special Reference to Biochemical Changes in Parkinson's Disease". Dr George Selby, Consulting Neurologist.
12th August, 1968.	"Radiology of the Upper Gastrointestinal Tract". Dr C. N. Matthews, Repatriation General Hospital, Concord.
19th August, 1968.	"Ulcerative Colitis". Clinical: Dr K. Bhanthumnavin, Lidcombe Hospital. Pathology: Dr J. J. Carter, Institute of Clinical Pathology and Medical Research.
26th August, 1968.	"The Mad Things People Do". Dr E. O. Longley, Division of Occupational Health.
2nd September, 1968	"Traffic Accidents on Country Roads". Dr A. Adams, School of Public Health and Tropical Medicine, Sydney University.
14th October, 1968.	"The Lipoidoses". Dr Brian Turner, Oliver Latham Laboratory, North Ryde Psychiatric Centre.
21st October, 1968.	"Forensic Medical Services in N.S.W.". Dr John Laing, Division of Forensic Medicine, N.S.W. Department of Public Health.
28th October, 1968.	"Automatic Data Processing in N.S.W. Hospitals with Applications to Cross Infection". Dr B. Mather and Mr R. Thode, Computer Unit, Hospitals Commission of N.S.W.
4th November, 1968.	"Current Physical Medicine in the United Kingdom". Dr R. W. Tinseley, Lidcombe Hospital.
18th November, 1968.	"Surgery in the Management of Bleeding from the Stomach and Duodenum". Dr John Moulton, Honorary Surgeon, Auburn District Hospital.
25th November, 1968.	"Biological False-Positive Reactions in Syphilis Serology". Dr M. F. Garner. "Particle Aggregation by Peritoneal Contents". Dr S. Fisher. "Exfoliative Cytology Abroad". Dr T. J. Ryan, Institute of Clinical Pathology and Medical Research.
9th December, 1968.	"Clinicopathological Conference". Dr P. Procopis, Lidcombe Hospital.

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH
PUBLICATIONS BY STAFF MEMBERS

- "A Fluorescent Technique for Demonstrating Treponemes in Films made from Suspected Chancres". M. F. Garner and J. H. Robson, (1968), *Journal of Clinical Pathology* 2: 108.
- "The Fluorescent Treponemal Antibody Absorption (FTA-ABS) Test for Syphilis. A Comparison with the Treponema Pallidum Immobilization (TPI) Test and the Fluorescent Treponemal Antibody (FTA-200) Test". M. F. Garner, N. M. Grantham, C. A. Collins and P. J. Roeder (1968), *Med. J. Aust.*, 1: 404.
- "A Serological Review of 156 Patients Presenting with Primary Chancres". M. F. Garner (1968), *Med. J. Aust.*, 1: 672.
- "Laboratory Diagnosis of Syphilis". M. F. Garner (1968), College of Pathologists of Australia, Broadsheet No. 2.
- "Calcifying Epithelioma (Malherbe) in New South Wales". H. Kramer and Joan Cooper Booth (1968), *Med. J. Aust.* 1: 1086.
- "Treponematoses in the Eastern Highlands of New Guinea". M. F. Garner and R. W. Hornabrook (1968), *Bull. Wld. Hlth. Org.* 38: 189.
- "The VDRL test. Significance of Rough Results". M. F. Garner and N. M. Grantham (1968), *Brit. J. vener. Dis.* 44: 131.
- "An Immunofluorescence Method for the Diagnosis of Primary Syphilis using an Absorption Technique". M. F. Garner and J. H. Robson (1968), *J. Clin. Path.* (London) 21: 576.
- "A Case of Foetal Vaccinia". A. M. Murphy, R. R. Hollis, et alii (1968), *Med. J. Aust.* 2: 173.
- "The Aetiology of Upper Respiratory Infections as seen in General Practice". A. M. Murphy, Annabella A. Chang and A. H. Chancellor (1968), *Med. J. Aust.*, 2: 984.
- "The bacteriological examination of urine obtained at remote locations". D. E. Garrard (1968), *Med. J. Aust.*, 2: 111.
- "An Outbreak of Diarrhoea in an Infants' Home due to a Shigella-like Organism". Wendy B. Riley (1968), *Med. J. Aust.*, 2: 1175.
- "The Role of Ethanol in Pancreatic Disease—animal experiments". R. C. Pirola, A. E. Davis and K. B. Taylor (1968), Proceedings of the Third Asian Pacific Congress of Gastroenterology, vol. 2.
- "Studies on the mechanism of increased splenic particle uptake in mice after injection of some finely divided agents". S. Fisher, Wendy B. Riley and C. D. Shorey (1968), *Journal of Pathology and Bacteriology*, No. 2. 96: 463.
- "A Survey of Antibiotic Sensitivity Testing". S. Fisher, W. F. Hunter and D. D. Smith (1968), *Med. J. Aust.*, 2: 171.

Publications in Press

- "Pilomatrixoma—Calcifying Epithelioma (Malherbe)". H. Kramer, J. Cooper Booth and K. B. Taylor, *Pathology*.
- "Gas Chromatographic Quantitation of Steroids in Health and Disease". Part 2: Quantitative Cleavage and Rates of Hydrolysis of Urinary Steroid Glucosiduronates Catalysed by Mammalian Liver β -Glucuronidase. R. N. Beale, D. Croft and R. F. Taylor, *Steroids*.
- "The Effects of Ethanol, d, 1-Ethionine and Protein Deficiency on Rat Pancreas". R. Pirola, K. B. Taylor, A. E. Davis and A. G. Liddelow, *American J. Digestive Dis.*
- "A New Basic Metachromatic Dye, 1:9-Dimethyl Blue". K. B. Taylor and Grace M. Jeffree, *Histochemical Journal*.
- "Serological Tests for Treponemal Infection in Leprosy Patients: An Evaluation of the Fluorescent Treponemal Antibody Absorption (FTA-ABS) Test". M. F. Garner, J. L. Backhouse, C. A. Collins and P. J. Roeder, *Brit. J. Vener. Dis.*
- "The Biological False Positive Reaction to Serological Tests for Syphilis". M. F. Garner, *Pathology*.

In Preparation

- "1968 Survey of Treponematoses in the Eastern Highlands of New Guinea". M. F. Garner and R. W. Hornabrook.
- "Treponematoses Survey of Northern Territory Aborigines". M. F. Garner.
- "The Blockage of Basophilia in Epithelial Mucins". K. B. Taylor.
- "The Management of the Atypical Smear in Pregnancy". T. J. Ryan.
- "A Survey of Cervical Smears from a Teenage Population". T. J. Ryan.
- "The Hormonal Pattern of Smears in Normal Pregnancy". T. J. Ryan.
- "Murine Typhus". A. M. Murphy, M. Freedman et alii.
- "Mycoplasma pneumoniae in lower respiratory tract infections in N.S.W.". R. R. Reid and A. M. Murphy.
- "Toxoplasmosis: Serological Studies". R. R. Reid.
- "Fibrinogen derivatives in particle aggregation by peritoneal contents". Stephen Fisher and Josephine L. Backhouse.
- "Complement Fixation Tests in the diagnosis of Brucellosis". Stephen Fisher and Sondra C. Boyd.



